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The Systematic Development and Integration of e-services: In the case of Developing Countries

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Authors Declaration and Originality

I hereby certify that I am the sole author of this thesis and this thesis has not been presented for examination or submitted for defense anywhere else. All used materials, references to the literature as well as academic works of others have been cited.

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Abstract

Technology has become an integral aspect in public services in recent times and this is evident in countries like Estonia, South Korea and even Georgia. Hence the need to replicate this technological development in developing countries. "E-government in a low income country like Nigeria can be considered a wishful desire due to the low standard of living and economic instability thus, hindering the development of e-services in the country" Kazeem Oluwakemi Oseni and Dr. Kate Dingley (2015). Basically, it is rather impossible to achieve a major spike in the growth of e-services without the stability of e-government as they both operate together. This paper will conduct interviews on the topic being reviewed mainly to justify the level of e-services awareness in the country. More so, the aim of this research is to investigate the previous methods that have been used in the process of developing national public service and explore the new strategies initiated to improve the development of the state information system. However, in other to create an unambiguous essay, the research will present examples from other African countries but the main focus will be on Nigeria. This study is primarily a reflection of the impact and relevance of implementing electronic services in a state thereby enlightening the government on the reasons why the development of a citizen-centric service in the public sector can be a contributing factor in promoting good governance. More so, this research will ensure to examine the possibility of upgrading or changing the structure the existing services for easy accessibility particularly for the older demographic.

This thesis will be written in English and will be 106 pages long including 7 chapters.

Annotatsioon

Tehnoloogia on viimastel aastatel muutunud avalike teenuste lahutamatuks aspektiks ja see on ilmne sellistes riikides nagu Eesti, Lõuna-Korea ja isegi Gruusia. Seega on vaja seda tehnoloogilist arengut arengumaades uuesti kopeerida. "E-valitsust madala sissetulekuga riigis, nagu Nigeeria, võib pidada soovunelmaks madala elatustaseme ja majandusliku ebastabiilsuse tõttu, mis takistab e-teenuste arengut riigis". Kazeem Oluwakemi Oseni ja dr Kate Dingley (2015) Põhimõtteliselt on e-teenuste tohutu kasvu suurenemine üsna võimatu ilma e-valitsuse stabiilsuseta, kuna need toimivad koos. Käesolevas töös käsitletakse intervjuusid vaadeldava teema kohta peamiselt selleks, et õigustada e-teenuste teadlikkuse taset riigis. Lisaks sellele on käesoleva uurimuse eesmärk hoolikalt läbi vaadata eelnevaid meetodeid, mida on kasutatud riikliku avaliku teenuse arendamisel, ning uurida uusi strateegiaid riigi infosüsteemi arendamise edendamiseks. Kuid, et mitte luua ühemõtteline essee, toob uurimus näiteid teistest Aafrika riikidest, kuid siiski, põhirõhk on Nigeerial. See uuring peegeldab peamiselt elektrooniliste teenuste rakendamise mõju ja asjakohasust riigis, teavitades valitsust sel viisil sellest, et kodanikukeskse teeninduse arendamine avalikus sektoris võib kaasa aidata hea valitsemistava esile toomisele. Veelgi enam, see uuring tagab, et vaadeldakse olemasolevate teenuste struktuuri edendamise või muutmise võimalust ja nende ligipääsetavust, eriti vanema demograafilise poole jaoks.

See väitekiri kirjutatakse inglise keeles ja see on 106 lehekülge pikk, sisaldades 7 peatükki.

List of Abbreviations and terms

IT	Information Technology
ICT	Information and Communications Technology
CAC	Corporate Affairs Commission
NPM	New Public Management
DEG	Digital Era Government
NBIS	National Basic Information System
NCIS	National Computing and Information Service
NFIS	National Financial Information System
MDA	Ministries Department Agencies
GOG	Government of Ghana
E-Service	Electronic Service
E-Residency	Electronic Residency
E-Tax System	Electronic Tax System
GSM	Global System for Mobile Communication
G2C	Government to Citizens
G2B	Government to Business
G2G	Government to Government
E-Banking	Electronic banking
KYC	Know Your Customers
I-Voting	Internet Voting
ID card	Identification Card
NCC	Nigeria Communication Commission
MFA	Ministry of Foreign Affairs

NDLEA	National Drug Law Enforcement Agency
NIS	Nigeria Immigration Service
NAFDAC	National Agency for Food and Drug Administration and Control
NPF	Nigeria Police Force
NNPC	Nigerian National Petroleum Corporation
FRSC	Federal Road Safety Corps
INEC	Independent National Electoral Commission
EFCC	Economic and Financial Crimes Commission
ICPC	Independent Corrupt Practices and other Related Offences Commission
NERC	Nigerian Electricity Regulatory Commission
NIMC	Nigerian Identity Management Commission
NPC	National Population Commission
ISTL	Iris Smart Technology Nigeria Limited
NEES	National Economic Empowerment Strategies
NeGSt	National e-Government Strategy
NITDA	National Information Technology Development Agency
ATM	Automated Teller Machine
IMF	International Monetary Fund
FCT	Federal Capital Territory

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Chapter One

1.0 **Introduction**

The introduction of Information and Communication Technologies (ICT) in Africa but specifically in Nigeria laid the foundation for major development in the information sector as well as in other Ministries, Departments and, Agencies of the nation. However, the inability to upgrade and integrate the public service platform provided by the government in a single window has made it difficult for citizens to take advantage of major opportunities. "Nevertheless, it is important to note that e-administration facilitates good governance using ICT effectively, thus improving administrative processes and internal activities of state departments" (Batta, Mohit; Sethi, Ashwani & Kaur, Rajdeep 2012). This paper will discuss how the current system affects the people and in addition, understanding how in spite of having a National Identity Card, the reason for its creation is yet to be fully utilized. Being a third world country, technological revolution has not only played an important role in connecting the country with the rest of the world, it has also contributed heavily in the country's banking sector and trade, including public service management.

This project will give a categorical analysis of the "as-is" situation in the public sector, the impact of technology in governance, development of major e-solutions for citizens and, the need to integrate government public services (G2C, G2G & G2B) using a public internet for accessibility like the XROAD in Estonia (which allows institutions/people to securely exchange data as well as to ensure people's access to the data is maintained and processed in state databases.). Also, a specific social media account will be created for awareness (to disseminate information) so citizens can have an idea on how to access services on government portals. Hence, emulating the e-system in Estonia and South Korea. This will also improve activities in banking, trade & commerce.

The application of e-governance has become an important mechanism in enhancing participation thus, the essence of developing a government information page on social media for the purpose of reaching out to citizens is because of the attention many people pay to activities on Facebook Twitter etc. It is however not only easy to initiate effective participation of citizens using this medium, it will also provide information regarding where to search for these services, as well as helping the people to understand the type of government services they need and how to access them.

Although still classified as underdeveloped compared to the West or countries like Estonia, Singapore, Malaysia, and South Korea to mention but a few, the lack of adequate ICT infrastructure, mediocre stakeholders and weak government structure can be regarded as major catalysts limiting standardization of the country's public system. Nonetheless, the long-term strategic development plan of Nigeria the "*vision 2020*" contains elaborate plans for the upgrade of the country's ICT sector to improve public services. That being said, it is impossible to ignore the increase in the use of mobile phones (since the introduction of GSM in 2001) and other devices embraced by a large percentage of citizens, almost 50% of the nation's population. This technological awareness and internet literacy can be regarded as a positive impact of ICT since the beginning of the Millennium.

1.1 Problem statement

This research topic was inspired by the different developmental changes in many countries today and the improvement in their public services which is associated with technological advancements. However, gerontocracy, bureaucracy and the silo system in government offices constantly undermines the improvement of public service development in Nigeria. More specifically, "the unwillingness of the government to share vital information to the public is very common in Africa as a whole" (Obaro, O. A. 2005). This has consequently resulted in the implementation of policies that are not advantageous to the masses and the establishment of government websites with little or no information, thus making the people less interested in the system Ajayi G.O (2005). The concept of e-services is not alien to the Nigerian government however so, planning and utilization of relevant strategies for its development and execution are some of the challenges experienced. In most cases, mismanagement and misappropriation of funds by the government, including the lack of expertise reflects the downward slope in the development and integration of e-services in the public sector. Take for instance the introduction of the national ID card and its zero impact as an e-solution towards the improvement of the lives of the citizens. Opening a bank account takes about two weeks due to the delays in the "know your customer" process (KYC) conducted by bank marketers. This issue could easily be averted if citizens' id could be used to validate addresses. The issue of a non-existing information system working in tandem with the national ID card has made it difficult for pensioners to garner adequate information about their pensions. Hence endangering their health as they cue in harsh weather conditions just to make enquires about their

pensions. The repercussion of this incompetency is the continued depreciation of a credible governing system and by creating a citizen-centric government, this can be avoided.

Issue of gerontocracy in leadership- This is a rather peculiar issue affecting the proper functioning of state services in many African countries. However, in order to present an unambiguous essay, I would like to focus on the case in Nigeria and also make references to other states for the purpose of clarity.

Bureaucratic system in government offices- This is a very important area in the public sector that requires both technological and human upgrade (expertise). In the long run, having to rebuild and integrate the public sector will ultimately lead to an improvement in service functionalities.

Issue of service in silos- This is also one of the major problems affecting the state public system. For the most part, the older demographic (pensioners) are mostly affected by this inefficiency. The inability to communicate properly between state offices and other departments have made the lives of these category of people rather difficult.

Political instability, mismanagement & misappropriation of funds- As mentioned earlier concerning gerontocracy, the inability to develop fresh innovative ideas have caused a massive setback in the areas of technological development in the nation's public sector. The problem of misappropriation of funds, corruption and political instability have been a long standing issue affecting the proper functioning of the state.

1.2 Research Objectives

The main objective of this research is to create functional and effective channels through which citizens can gain access to the state public service. More so, the development of a well-functioning information system will not only be beneficial to all citizens but mostly the older demographic inclusive. This way, the latter can use the state portal to make different inquires about their pensions and other relevant information they might need.

That being said, below are some of the primary objectives of this study:

- To investigate the lapses associated with the use of new technologies and tools in the public sector.

- To examine the different ways in which citizens can be involved in the developmental process.

- To discuss the salient benefits of technology in governance and interpret its functionalities.

- To explore the current pattern in the public service information system.

- To describe how government policies, facilitate the development of public service.

1.3 **Significance of study**

The growing importance of new technologies and its benefit in the achievement of better governance have generated a lot of attention in the world today. In reaction to this innovative discovery, many states in the world today have begun the process of implementing the use of electronic services for the purpose of achieving a better government. Some countries like the United Kingdom, South Korea, Georgia, and Estonia etc. are examples of government who have experienced the benefit of electronic governance to deliver public service, as with their active engagement with citizens.

This study reflects the relevance of implementing electronic services in a state thereby enlightening the government on the reasons why the development of a citizen-centric service in the public sector can be a contributing factor in promoting good governance. In view of that, it is important to note that the success of a state is mostly measured by the well-being of its citizenry. This study also points out the impact the intended upgrade will have on the political and economic situation of the country. The development of e-services will eliminate bureaucratic system in the public sector thereby investing time saved into other development projects. This can also be regarded as an important aspect of the research.

That being said, the essence of this project is basically targeted at understanding the several benefits associated with creating an integrated e-service portal that caters for the needs of the citizens. Thus, using a technological driver that allows cross-matching and integration of data in different departments. This initiative will not only help to promote good governance and increase service accessibility, it will also improve the process of service management, data management, averts project ambiguity and improves service functionalities.

1.4 Expected Outcome

- Quick access to relevant information

- Improves knowledge and promotes active use of available services

- Promotes efficiency and reduce endless service protocols

- Promotes cooperation and interaction between government agencies

- Increases active participation of citizens in governance

- Leads to continuous service upgrade in the public sector

1.5 Research Structure

This research is structured into six chapters. Chapter two will focus on literature review. It will also discuss the theoretical background and the impact of technology in developing countries especially its contribution towards the development of the public sector. This chapter will create a better description of transition process i.e. from a manual to a technology-based system that has been recorded in some areas of the public sector. Furthermore, this chapter will ensure to examine the changes recorded after the introduction of the GSM, its impact on the communication level among citizens and how the government can utilize its many functions for the benefit of the citizens. Chapter three will discuss the research methodology. Chapter four will describe the existing information system used in the public sector and discuss new service remodeling strategies with the aim of improving public service delivery. This chapter will also examine the factors inhibiting the development of e-services in Nigeria as well as the effect of low investment in technology. Chapter five will provide result analysis and general observation. Chapter six will discuss the research validity and limitation and chapter seven will give an overall conclusion and create possibility for future research.

1.6 Scope of Study

This research will discuss the factors inhibiting the development of electronic services in the country. It will also expatiate on the importance of stakeholders in the process of planning and implementation.

The study will give an in-depth analyses on the influence of new technologies in public service especially from the beginning of the millennium (from 2000 - 2017). In addition to this, the study will further investigate some of the previous strategies and methods used to arrive at possible solutions with regards to case in view.

Using the bottom-up style of research, this study will try to explore the different aspects of the case through a socio-cultural perspectives.

This research is expected to emphasize on the positive impact the implementation of e-services will have on the daily lives of citizens and in the later part, the effect it will have on G2G interactions.

1.7 **Research Context**

The growing use of technology in the world today has been a motivating factor towards the need for improvement / development of the public sector in developing countries recently. The introduction of technology in many African states have improved healthcare to an extent as a result of the knowledge, enlightenment and awareness generated from news all around the globe that is now accessible. Although not all member of the society can afford a private ownership of mobile phones and access to the internet, but for those who can, it has not only made them more sensitive about their environment but also more curious about their personal health. The access to social websites like Facebook since its establishment in 2004 has not only made it more convenient for small business owners to increase their market but also it has promoted freedom of speech. Although many African states practice democracy, the reality of that is sometimes a mystery. There is not an active government information system that deals directly with the issues of the people and in the existence of such, the need to invest in more developmental projects is imperative.

A Table containing the general usage of the Internet in 2017

WORLD INTERNET USAGE AND POPULATION STATISTICS JUNE 30, 2017 – Update						
World Regions	Population (2017 Est.)	Population % of World	Internet Users 30 June 2017	Penetration Rate (% Pop.)	Growth 2000-2017	Internet Users %
Africa	1,246,504,865	16.6 %	388,376,491	31.2 %	8,503.1%	10.0 %
Asia	4,148,177,672	55.2 %	1,938,075,631	46.7 %	1,595.5%	49.7 %
Europe	822,710,362	10.9 %	659,634,487	80.2 %	527.6%	17.0 %

Latin America / Caribbean	647,604,645	8.6 %	**404,269,163**	62.4 %	2,137.4%	10.4 %
Middle East	250,327,574	3.3 %	**146,972,123**	58.7 %	4,374.3%	3.8 %
North America	363,224,006	4.8 %	**320,059,368**	88.1 %	196.1%	8.2 %
Oceania / Australia	40,479,846	0.5 %	**28,180,356**	69.6 %	269.8%	0.7 %
WORLD TOTAL	**7,519,028,970**	**100.0 %**	**3,885,567,619**	**51.7 %**	**976.4%**	**100.0 %**

Figure 1: Miniwatts Marketing Group Statistics

The essence of using this table which was put together by Miniwatts marketing group is to present a better illustration regarding the current usage of the internet within Africa. Ironically, with the popular use of the internet in Africa one would immediately assume that more of its use has been directed towards the states' information system but alas its usage is mostly reflected on social media and general web search.

That being said, the lack of development in the public service system in many developing states is due to the limited use in technology, misappropriation of fund and frequent political upheavals, thus, causing the sector minimal attention. In terms of public service development, a remarkable example in developed countries can be seen in the northern European country, Estonia. Being a pace setter in e-governance, their transition from a paper-based system to digitization has made activities both within and between government agencies easier. The outstanding record of this European digitalized society has become the envy of many if not all states in recent times. The digitization mechanism in the state public system like the e-tax system, E-residency, school, health, transportation and even I-voting systems have continued to make the lives of citizens essentially productive. Hence, promoting good governance.

Over the years, the Nigerian government have made several attempts to develop different information system for different government agencies like Corporate Affairs Commission (CAC), and the Nigerian Immigration Service to mention but a few. Despite the effort made to create these government websites but precisely the CAC, the registration/ certification of companies and other business related procedures are still being carried out by office visitation. Nonetheless, it is important to note that even though there has been a big turn-out in the use of internet in the country considering the relatively low percentage of users in the past, the development is yet to influence a positive change within public service activities as bureaucratic practices is still imminent.

In view of the above and order to encourage the frequent use of these government agencies, the need to increase the use of new technologies and the possible integration of these system is paramount. This change will significantly improve work flow, facilitate increased productivity both on the state and personal levels, it will improve service quality and promote time management.

1.8 **Conclusion**

Chapter one has laid the foundation for this research. The chapter has explained the research objectives and questions, the significance of the study as well as the research context. The background of the study as regards to the factors responsible for the active use of technology and the need to develop a functional information system have been discussed. Relatively, the complexity of the technology, deeply entrenched organizational routines, and great diversity in the acceptance of technology by individuals are some of the problems associated with e-development.

Chapter Two

2.0 Research Background

This chapter presents an overview of what this research intends to explore, it provides specific examples on the benefits of e-governance and how developed states have used it for the general good. This chapter will also unfold some different attempts that has been made by developing countries towards the development of public sector based on the successes recorded in the area of e-governance. Section 2.1. Gives a literature overview of how globalization and intense ICT growth have triggered the economic independence of states and citizen enlightenment. Additionally, this section will be divided into two subsections 2.1.1.Current level of technological development in developed countries in the area of e-governance and; 2.1.2. An overview on the use and impact of technology in developing nations and future expectations 2.2. Gives a theoretical explanation of the general study and 2.2.1 will provide a brief conclusion of the chapter.

2.1 Literature review

2.1.1 Globalization and the Level of Technological Development in Countries

Technology and innovation are two components that are closely knitted, thus, positively impacting any sector in which they are associated with and they are mostly responsible for transformations into the information age. This is something "Marshall McLuhan had foreseen since the 1960s, which he called the 'global village' but is now widely referred to as globalization" (Gaëtan Tremblay 2012). "Whether in telecommunications or pharmaceutical sectors, innovation is often time affected by three main factors; knowledge and technologies, actors and networks and institutions" (*Malerba* 2004). Here is a brief explanation of these three factors: *knowledge* is power, and it can either be accessed from within i.e. internally or accumulated externally. On the other hand, the best way to utilize technology efficiently is by having adequate knowledge on the type of technology. In other words, knowledge and technology work *paripassu*. *Actors and networks* can be described as the method of communication and interaction between citizens as well as the people within the sector. *Institutions* can be referred to as the agents responsible for stability within the society. They establish practices and standard laws / rules that shape these sectors. Meanwhile, it is possible to conclude that "some countries are still working towards incorporating the new innovation into their public system, many of these countries are still

struggling with the organizational change, usually referred to as the New Public Management system" (Patrick Dunleavy, Helen Margetts, Simon Bastow, Jane Tinkler 2006). "In a bid to shift towards Digital Era Governance, there have been a significant improvement in the area of trust between citizens and government since the implementation of e-government in Canada" (Fichman, R. G. and C. F. Kemerer 1999). "With the development of government web-services, the previously diminishing trust level between these parties is becoming a thing of the past based on the recent development" (Michael parent, Christine A. Vandebeek, Andrew C. Gemino 2005).

That being said, "Globalization is a process of global economic, political and cultural integration, thus breaking borders between countries. Globalization introduces new ways of doing things, techniques, methods and even new processes. It is a term that can be used to explain the increase in trade as well as the rise in technology transfer" (Eddy Lee, Marco Vivarelli 2006). The relevance of Globalization in developing countries is based on the relative increase in competition between conglomerates. "The need to constantly improve service delivery and increase customer base are factors that triggers the successes within these organizations. Globalization has influenced economic and political processes, technological development, health systems, and social / environmental factors" Kotilainen, M & Kaitila, V. (2002). The competitive nature between countries like China and India as well as their drive to take advantage of the positive aspect of Globalization are significant factors responsible for the economic, political and social stability in some developing countries based on the access to knowledge and general enlightenment. Thus, "due to some important tools of globalization like television, radio, satellite and internet, it has become possible for developing countries to be updated on technological developments and other relevant information in America and Asia as well as countries within Europe and Australia" Kotilainen, M & Kaitila, V. (2002).

Figure 2: Technology & Globalization

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2.1.2 Current level of development in the area of E-governance in Developed Countries

"E-governance can be described as the ability to use ICT systems to transform relations with citizens, business sector and even government agencies to improve service delivery, government performance efficiency and, enhance accountability" (Nawafleh S.A, Obiedat R.F. Harfoushi O. K 2012).

The use of technology in governance has improved the public service system tremendously especially in the developed world. However, there is no doubt that the stable economic situation experienced in these states is a major factor for the recorded successes of e-governance. In Estonia, the personal ID card can be used to perform numerous functions. This personal ID has a unique code which is used to differentiate each person. With this upgrade, there has been a substantial decrease in drug abuse. That is, if a person intends to buy drugs at the pharmacy it will be impossible for the person to do so without a doctor's prescription. More so, because the health system in the country has been digitized, the person in need of the medication will be required to present his/her personal ID card at the pharmacy in order for the attendants to access the said information before payment can be made for the prescribed medication. This is considered to be a significant development.
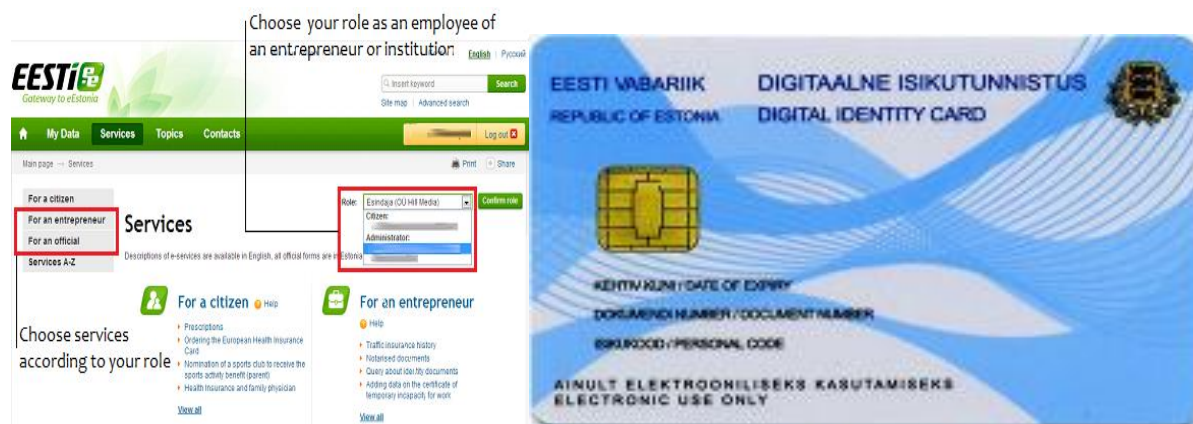

Figure 3: Eesti portal / ID

In South Korea, just like in most countries today, the government have been working on several ways through which transparency, trust and openness can be achieved in governance. However, due to the growing use of technology in various governmental sectors, the use of information and

communication technology has been efficiently utilized in this context. "The South Korean government have developed the necessary infrastructure for e-government and in order to achieve absolute success in this project implementation, the government have been able to overcome bureaucratic and political impediments" (Kim H. 2011)

"The interconnection of computing devices via mobile and internet infrastructures have given a lot of people the opportunity to access government services. In furtherance to this, South Korea developed the National Basic Information System in 1987, Minwon 24, a public service portal, National Computing and Information Service, Smart entry service which is an immigration e-clearance system, and Kiponet (e-patent administration system) for the benefit of the citizens. Other services include; Koneps (e-procurement system), this digitized development has increased procurement transparency and has encouraged completion. ON-NARA Business Process Services is used to process government work online and, e-people portal is used to facilitate and improve citizen participation in politics" (Chung C. 2015). In addition to this, the National Financial Information System (*dBrain*) is an effective tool that improves financial activities in the public sector based on its ability to track the usage of national funds and budget spending.

Finland is another country that have been able to deliver effective and efficient services to the people. Thus, "ensuring equal opportunities towards accessing public information and easing the process of sharing and exchange of national public documents" Toshio Obi, Naoko Iwasaki (2015). Although some government are faced with the different challenges of reforming their public administrations or transforming their public sectors into a technology based system, most of these countries have been able to overcome these set-backs. "In other to deliver updated information, spread knowledge and improve enlightenment, Finland developed the e-engagement system which is aimed at improving online access to information and citizen consultation and participation in policy-making. Finland's commitment to openness and citizen' participation in public affairs has also been a fundamental aspect of the national information society strategy" (zhiyuan fang 2002).

"The development of National Government Web Portals was done in response to public demand for easy access to a complex set of services across government. A national portal, along with other regional portals, have been launched in Finland with a view to creating a seamless interface between government, citizens and businesses" (zhiyuan fang 2002). "The high rate of connectivity between agency websites, government portals, and the Citizen Portal, indicates a development

trend in the public system. As a result, portal development has paid attention to providing solutions to problems related to the quality and accuracy of information, service integration and ease of use" Toshio Obi, Naoko Iwasaki (2015).

"Being one of the pioneers in the area of e-government and motivated by the desire to achieve the best outcome, Finland has decided to initiate several back-office changes: the promotion of internal change is one of the most important aspect of this process. With the implementation of new internal changes, the country's public offices will record an upward slope in business processes" (West D. 2005). In this case, there will be an acquisition of more experts with improve skills targeted at different departments within government offices. "Finland has thus recorded significant international recognition based on her active use of information and communication technology and the growth in e-governance" Toshio Obi, Naoko Iwasaki (2015).

In addition to this, "Finland is looking towards emulating Estonia's X-road idea, this way all scattered government information e-services can be integrated. Just like in Estonia, Finnish people can also make use of their eID to access information and request for services on government websites. It is also important to note that Finnish government agencies no longer receive paper invoices" (West D. 2005). In other words, "if a person is without an accounting software with an e-invoice function, the person can use the online e-invoicing service provided by the government free of charge when invoicing a Finnish government agency" (Carter, L. and F. Belanger 2005).

Georgia (Tbilisi) is also a remarkable example in the area of e-services development in the state public system. "The Georgian government developed MY.GOV.GE, a citizen portal that gives the people the opportunity to receive vital service and government information. The use of ID cards in Georgia has become really popular despite religious resistance" (De Kare-Silver, M. 2011). "MY.GOV.GE can be accessed through the ID-Card or username and password, which can be registered at any branch of the Public Service Hall. After registration, the customer can use various e-services. The portal brings together all e-services provided by various public organizations. Registered customer can also request public information from all governmental organizations electronically and receive their feedback in the notification box" (Gia Kiknadze 2007). "This allows for a number of services in one place, like e.g. birth - death – marriage – divorce registration, establishment of paternity, name/surname change registration, new ID card/Passport, etc. The Ministry of Justice also provides distance services online for the citizens of Georgia who are

abroad. Citizens may fill out applications through the web page of the public service development agency" (Gia Kiknadze 2007). This services requested by Georgian citizens all around the world though the government websites is safe and can be accessed free of charge.

2.1.3 **An Overview on the Use and Impact of Technology in Developing Nations and Future Expectations**

Government all over the World have recognized the potential of technology in governance and as a result, many developing countries have decided to gradually incorporate it in the different state sectors for better outcome. However, it is important to note that additional effort has to be put in place in other to make e-governance effective in Africa.

Furthermore, because the day-to-day business of the government is based on information, "the need to increase the public sector productivity level has been associated with the necessary implementation of e-governance in Nigeria" Kazeem Oluwakemi Oseni and Dr. Kate Dingley (2015). "Information is a critical resource that helps to ensure the accountability of government, enables government in different countries to manage its operations and encourages citizen participation in governance" (Heeks R. 1999). In view of this, it is acceptable to conclude that "electronic governance is a relevant component in the modern usage of technology in public administration. This can be associated to a major shift in paradigm of service delivery via information and communication technology" Samuel Oni, Aderonke Oni, Daniel Gberevbie (2015). Today, the use of internet grows by the second particularly by the vast majority of worlds' population and because the world is a global village, its benefits cannot be overlooked.

Nigeria has suffered a major setback in her quest to promote good governance due to political upheavals. However, this has not hindered the movement to constantly improve in the areas related to technological upgrade. In order to achieve success in the implementation of electronic services, the ministry of finance as well as the ministry of information and development must work in close connection for this purpose. The systematic development of e-services in the country's public sector will not only help to improve the lives of the people but it will also increase the upward slope in modern technological advancement. Although the essence of initiating a systematic approach is targeted at gradually eliminating a paper-based system, it is important to also note that

the outcome might be delayed due to the dynamic characteristics of stakeholders. There is a list of few existing public services in Nigeria but the question is how visible are the key performance indicators? How aware are the citizens about these services and what is the accessibility level? Many and more of these things come to mind when the discussion arise. To begin with, the quality of service function can be developed automatically on the service portal and can be measured by the frequent usage. Also the creation of state social media account will help facilitate positive awareness. The overall success of this initial stage can contribute to the general acceptance and implementation of e-governance in Nigeria.

Providing speedy information to citizens, promoting transparency, and improving administration efficiency in public service are some of the important and expected outcomes of having a solid governing system. This initiative can be manifested in the development of an e-solution and the integration of services such as the registration of vehicle licenses, creation and registration of new businesses, access to a unified utility bill payment system, being the result/ outcome. According to Sanchez (2006), "e-government is the use of information technology to support information flow. We can however say that either within or outside public authority, the increase in state productivity level can be continuously improved using electronic services, thereby improving G2G and G2B relations". However, it is important to note that "the expected results in the implementation process might be influenced by the hierarchical structure in administrative system and the complexity of an administration is mostly based on its hierarchical structure" Coleman (2008). In any case, government will not only have to maintain partnership with different organizations, they also need to maintain cordial relationships within departments. This approach will create effective teamwork for better government, improve service development and break down departmental barriers.

"The implementation of e-services by the Government of Ghana is targeted at facilitating effective delivery of government services to the public and ultimately to provide electronic means of sharing information and knowledge through a network infrastructure. This development project is aimed at connecting all major town and cities, ministries, government agencies, and other public sector organizations in Ghana" (Isaac K. Mensah 2016). "The sole aim of this development plan and the purposeful use of ICT in public administration is to enable, improve and increase productivity in government administration and service delivery. Thus, facilitated by the active use of government

web-portals to exchange information and enable better interaction and coordination of work among Ministries, Departments and Agencies including the citizens and business owners" (Clark D. 2001). With the gradual implementation of the e-government initiative in Ghana, citizens have since been experiencing relative changes in the public system. "They have been able to access, register and pay for services (via electronic payment portal) such as the renewal of driving licenses, business registration, payment of taxes, acquisition of marriage and birth certificate as well as the ability to apply for passport renewal and issuance" (Clark D. 2001).

The general idea concerning the future expectation in the implementation of e-governance can be categorized into four basic steps:

The ability to accesses valid information published on government official websites is important in order to achieve transparency and accountability. "This information could be based on available public services, government lunches, seminars and even events. Citizens should have unlimited access to government websites as this is one of the major benefits of e-governance" (Piaggesi Danilo 2011).

The ability to communicate directly with the government and make certain requests via government websites. In this case, requests can be processed faster as there are no intermediaries or bureaucratic hindrances.

The ability to conduct several transactions online without having to visit government offices and wait in queue before receiving an application for appointment.

The last item is the most sophisticated of the list. In this case, "all government services provided from different departments / agencies are integrated together and accessed through a single window / website known as the e-Government portal" (Piaggesi Danilo 2011).

2.2 Theoretical Framework

A theoretical framework is a logical representation of concepts involved in a scientific research. The theoretical framework gives a concise and general explanation of the research concept. Its purpose is to clearly identify what will be explored and examined as well as the relationship between these complex concepts in line with the main study.

For the purpose of this project, leadership, cooperation, and innovation are the theories that will be used in this study.

Leadership- This is an important aspect of this study. "The development of a state is mostly dependent on the type of leadership that is in existence in terms of stability and security" (Snellen. I 2005). In some African states, it has been rather impossible to lay the foundation for the development of electronic services as well as the process of maintenance mostly due to the different political ideologies within the state leadership. "Since the demise of military and authoritarian regime in Nigeria following the country's return to civilian administration in 1999, a repositioning and restructuring of the Nigeria public service to be in tune with democratic values of effective and efficient service delivery has become highly imperative" (Samuel Oni, Aderonke Oni, Daniel Gberevbie 2015). In spite of this development, the current leadership under President Muhammadu Buhari is still struggling with the fight against corruption, thus, neglecting the necessary improvement required in the public sector. Furthermore and within the context of E-service development and integration, the positive impact of stakeholders and a progressive leadership tends to automatically fast track the implementation process and project development. According to Darma, Nazifi Abdullahi & Ali, Muhammad (2014), "the consistency of a government policy towards the development of the public sector will yield a positive outcome over time". Alas, the lack of commitment and enthusiasm seen in different administration to continue an existing developmental project have led to the stagnant nature of the state's public sector.

Cooperation- This research is also examined under the theory of cooperation because it is an intrinsic aspect of economic relations and development. Without this piece of the puzzle, development cannot commence. Cooperation, being a combined effort to work together voluntarily for beneficial outcomes, is a fundamental step towards the growth of every state. Communication instigates motivation and being a significant step in this process, it cannot be overlooked. Cooperation between state agencies, within departments and most importantly between the government and the people is most imperative. In the observation of Obaro, O. A. (2005), "cooperation is not only limited to public-private partnership, it goes beyond that. The need for public servants who are willing to cooperate with the paradigm shift of administrative processes by building their ICT skills consistently is most imperative". In other words, having the facilities as with the deployment of tools to solidify cooperation and effectiveness of the process is not

enough without the existence of capable workforce. More importantly, making better choices to align ICTs with a well-developed strategy will leverage this critical resource.

Innovation- This is another area that will be frequently examined in this research. The flexibility of a government towards innovation is crucial in the development of the state public sector. "The success of innovation requires improved work ethics and value creation, operational re-engineering and organizational efficiency through technology that is specifically targeted to meet public expectations" Daniel Egbunu (2017). More so, the need to embrace change and invest in new technology for the purpose of achieving better government is paramount especially for future generations. Hence, both for short term and long term benefit. This theory will explain how technology continues to evolve over the years especially through communication channels as well as ways through which is can be exploited for the greater good. In view of this, Besley, Timothy & Ghatak, Maitreesh (2007) identifies the struggle faced by many developing countries in the area of reforming the public sector. According to them, the problem of how to innovate and create a standard public service that will satisfy user requirement and promote accountability is noteworthy.

2.3 **Conclusion**

This chapter was structured to explain how technology have impacted various communities in the world as well as the relative contributions made by globalization towards the development of different administrations. The ability to move from one country to the other have contributed to the process of enlightenment of many countries in the world today both in terms of technology and politics. More so, as discussed in previous chapters, this chapter explained the many benefit of technology and the utilization of its potential by some developing countries. However, based on the recorded successes of e-services and how it has been responsible for government transparency, credibility and accountability in developed countries, this development has triggered the gradual adoption of e-governance by developing states.

Chapter Three

3.0 Case Study Design

This chapter examines and explains the techniques that will be used in this research. The ultimate importance of this chapter is to justify the prospective findings of this research and maintain credibility. Section 3.1 explores the research questions, and section 3.2 concludes on the research proposition and hypothesis. Section 3.3 describes the research methodology, section 3.4 gives an in depth analysis of the Nigerian case and section 3.5 provides a brief conclusion of the chapter.

3.1 Research Questions

In order to justify the need for the development of e-services, the remodeling of existing services, the as well as the need to determine whether this process will increase interaction between state agencies, government and citizens, some questions will be formulated. That being said, and from the main research question, which will be structured in the "*how to*" form, three sub-questions will be created to give a better understanding concerning the view of the people about government policies. Furthermore, areas concerning factors instigating the urgency for a public sector upgrade, and most importantly, different views regarding the characterization of the public sector will be explored.

Main research question: How to develop an effective electronic service platform for the benefit of the people especially older citizens, aged 60-85? This question will be addressed in various ways and one being that the lack of an e-service system has made it impossible to connect the national ID card with the information system thereby making it difficult for pensioners to garner adequate information about their pensions and to process other activities.

Sub-question 1: How to increase the active use of technology in the state? This will facilitate tech-literacy and promote good governance.

Sub RQ 1.1: What are the major challenges affecting the transition to an active tech society?

Sub RQ 1.2: What type of technology upgrade is required in the state system?

Sub RQ 1.3: What should be considered in the technological upgrade process of the state system?

Sub-question 2: How to increase the level of online participation of the people particularly the older citizens? The logic behind the relationship between this question and the main question is that all citizens irrespective of their demographic can directly process any activity online without being delayed or ignored. This is subject to the development of an effective electronic system. For instance, pensioners can directly inquire about their monthly payment or other request needed.

Sub RQ 2.1: What are the measures that can be inserted to motivate online participation?

Sub RQ 2.2: What can be used to measure the growth of online participation?

Sub RQ 2.3: What phase of development can be used to determine the effectiveness of online participation?

Sub-question 3: How to increase the involvement of citizens across borders? The effective use of electronic services will allow all citizens including the ones in the diaspora to have access to the state portal. This could either be for the purpose of re-issuing their passports or if possible, the possibility to vote online. Hence, making it possible for citizens to still be a part of the state system. Also, this could be through the implementation of an online state portal that allows the people to make comments and suggestions on issues affecting the state.

Sub RQ 3.1: What are the factors inhibiting the involvement of citizens across borders?

Sub RQ 3.2: What can be considered an effective measure for promoting citizen involvement?

Sub RQ 3.3: What is perceived as the standard level of citizen involvement?

These questions are relevant because targeted at understanding the current situation through a social perspective. These are semi-structured questions aimed at getting the views of the people concerning the state of affairs and what they would like to change.

More so, I believe these questions are quite relatable to the average Nigerian and so for each of this questions, there is a possibility of unravelling several relevant responses on the subject matter.

3.2 Research Propositions

In my own terms, if the process of change in the public sector is not properly communicated between those in leadership, then the process will be followed by much resistance mostly due to

the dynamic nature of stakeholders. This is partly because of the frequent clash in ideas that may occur during discussions but mostly because of the lack of flexibility and openness to change.

However, there is a possibility of recording a successful outcome in the integration process based on the open-mindedness of the government towards technological development. The use of new technologies is an improvement in the state's sector and the vision to compete with the rest of the world is a motivation for development. On the other hand, hypotheses can be described as statements of assumptions that provide solutions to problems and are largely connected to the research questions.

Affiliated to RQ 1:

Subtopic 1: IF limitations are gradually reduced, THEN the use of technology will increase.

In any case, if the unstable political structure of the country can be properly addressed, the planning and implementation process of the public sector and the upgrade of existing government services as with the development of new services will record positive outcome.

Subtopic 2: IF resources are invested as with adequate research, THEN technological upgrade will be successful.

It is important to note that investment in adequate research has resulted in the improvement of many state services as well as general development in recent times. More so, "research is one of the most significant processes of innovation which eventually leads to development"(Kline and Rosenberg 1986, 285).

Subtopic 3: IF the different aspects of technological development are considered, THEN there will be a significant effect on other agencies.

Affiliated to RQ 2:
Subtopic 1: IF an effective electronic system is developed, THEN the participation of citizens will increase.

If existing and new e-services can be integrated, it will reduce the rigors of making enquiries about available services and as a result even citizens in the diaspora will thus, have access to these

services. The integration of several services on a single portal will not only improve the information system, it will also make the lives of the older demographic easier

Subtopic 2: IF there is substantial investment in quality technology, THEN the growth in participation will be measured by the frequent traffic on service platform.

In addition to that, if the government invest in quality technology in the public sector, the manifestation of outcome will suffice when the information system can account for an active use of technology which will be measured by both the positive feedback of citizens and the frequent traffic on service platform.

Subtopic 3: IF there is adequate investment in tech experts, THEN effective participation could be measured by the positive feedback of citizens based on service functionality and timeliness.

In this instance, if the recruitment of technology experts in public offices continues to grow and spread across government agencies, the initiation of this development in offices will make the transition process in the sector easier especially in technical cases.

Affiliated to RQ 3:

Subtopic 1: IF the area affecting general involvement is realized, THEN it is possible to achieve a high percentage of involvement.

Subtopic 2: IF existing and new E-services can be integrated, THEN the involvement of citizens in diaspora will be considerably improved.

Subtopic 3: IF the integration of several services can be achieved, THEN having direct access to services regardless of location will be a standard improvement.

3.3 **Research Hypotheses**

1. Context-level Questions

1.1 Segmentation questions

1.1.1   How old are you?

1.1.2   What is your profession?

1.1.3   Where do you work?

1.1.4   How does the public service system influence your daily activities?

1.1.5   How often do you use the state public service?

1.1.6   How do you apply for regular services?

1.1.7   Do you have a constant internet connection?

1.2 What in your opinion can be done to improve the public system?

1.3 How will you rate the state information system?

1.4 What should be changed in the state public system?

Affiliated to RQ1:

The ideal quality of investment can reduce limitations and increase the active use of technology in the state.

- What is the effect of stakeholder cooperation in the development process?

- How can the state promote digital culture and increase value?

- What is the current level of technological advancement in the state?

- How can political and ideological differences affect the use of technology?

- How can we move from passive to active use of technology?

The improvement in technology will promote good government and effective service.

- In which of the state agencies should the upgrade in technology begin?

- Why is it paramount to regularly upgrade the system?

- How can the new technology enhance processes and interactions with other entities?

- Which technologies and tools are compatible and how does the IT infrastructure change?

The need to define priorities for standards and interoperability of devices, applications, services and networks as well as legal requirements are crucial.

- How does the organization / state ensure that technological processes meet legal requirements?

- What is the process on risk analysis?

- How can the maturity process be measured?

Affiliated to RQ2:

The projection of diverse strategies for building the means of being connected to the web.

- Which channels should be used to engage with citizens?

- Can the use of social media be qualified as a channel?

- How can these channels promote better communication?

- How do we assess the effectiveness of these channels?

The relative participation of citizens in state activities will be used to measure the success of development.

- What will be the maximum outcome of participation?

The basic determinants of measuring the effectiveness of participation

- How do you measure the quality of engagement?

- What is the rate of efficiency on the quality of services available?

- What do you expect as a benefit of participation?

Affiliated to RQ3:

The diverse limitations associated with the interconnectedness of services.

- What do you classify as a restriction for involvement?

- How do you manage to get involved?

- Do you have access to service platforms?

The method of measuring involvement can be reflected in diverse areas.

- What is the maximum level of involvement that can be achieved?

- What are the options for involvement?

- What characterizes active involvement?

The standard of involvement can be specified in the maturity level

- What is the complete characterization of standards?

- How does your involvement impact standard?

3.4 **Research Methodology**

This research is a reflection of a case study type. "The case study research method is commonly used to increase knowledge about groups, individuals, organizations and related phenomena" (Per Runeson, Martin Host, Austen Rainer, Bjorn Regnell 2012). To give a brief and concise explanation, "A case study is an empirical inquiry that investigates a contemporary phenomenon in depth within its real world context", (Yin, 2013).

Moving forward, I will conduct interviews with both the youth as well as the older demographic because their insight is most paramount as with others. Also inclusive is the use of survey as it is "the collection of standardized information from a specific population, or some sample from one, usually, but not necessarily by means of a questionnaire or interview. In that wise, surveys provide an overview rather than depth in the studied field" (Per Runeson, Martin Host, Austen Rainer, Bjorn Regnell 2012).

This study will adopt a qualitative research methodology that will include:

3.4.1 **Data Collection Procedures**

- Interviews- Through a semi-structured approach by using key informants:

    The importance of having a primary source in any scientific research cannot be over looked. The need to understand the situation from a general view makes the research genuine and credible. However, because the research will be proposing new methods of satisfying the people, or better ways by through which the government can make the system more effective, the interviews will thus focus more on relevant and direct questions to this effect.

- Discourse analysis

    In this area, I will apply Foucault's critical discourse analysis approach to do a thorough examination of recorded conversations for the research. This approach will be used to understand critical issues like power relations and how inequality/ ethnicity affects both policy formation and general development.

- Documents- The use of information gathered from published books, academic journal and articles, including documents from academic libraries will be used for the study of this research.

3.4.2 **Analysis procedure**

The essence of this procedure is to ensure a concise description of the various steps that will be used in the data collection and analysis process.

The analysis procedure involves a brief explanation of the research purpose. This step ultimately leads to the development of the research questions and connecting hypothesis. The reason for creating a set of hypotheses is to create a constructive view on what the research is hoping to achieve. However, because the purpose of conducting a research could be broad in its entirety, the need to state clearly the scope of study is also paramount. This focus promotes a comprehensive scientific study and reduces ambiguity.

That being said, the use of a qualitative research methodology involving semi-structured interviews and survey questions are part of the analysis procedure. Hence, used to maintain research authenticity. The data collected through this process will be used to give further examination on the research objectives and substantiate the purpose of the research.

The use of open coding system will be applied to this process. This involves the need to translate and interpret recorded data without bias/ influencing the results. The over the phone open survey interviews will be recorded and then be transcribed into a text file. In furtherance to this, the need to perform a thematic analysis with coding using the R-based Qualitative Data Analysis (RQDA) software is most pertinent.

3.5 **Conclusion**

The ability to conduct a credible scientific research is largely dependent on the research methodology. This is the area that creates more meaning for the study particularly after data collection procedure has been successful. The need to decide on the research objectives to make the study unambiguous and develop research questions that will be used to conduct interviews generates credibility for the research.

Chapter Four

4.0 **The Nigerian Case**

In order to understand the Nigerian case, it is important to describe the ideologies of the people who have governed the nation and how it has either engendered or limited the development of e-services.

In critical terms, power and having the mental state of individualism have been the major catalyst and a source of distraction for those in leadership position, manning the affairs of the state. In view of this, progress is often characterized in different ways. Regarded as the largest economy in Africa, the struggle to measure up to many developed society and the ability to provide the people with basic needs have always been a major concern for the state. "Governance in Nigeria and in Africa as a whole is mostly characterized by corruption, debt overhanging, low productivity, unemployment, unstable policies, and bad government" (Abid Thyab Al Ajeeli 2011). These negativity have been linked to the slow movement in the development of public sectors such as: health, education and even power generation.

Over the years, Nigeria have worked towards moving from only an Information Technology (IT) enabled nation to joining the list of countries with effective and well-functioning Information Communication Technology (ICT). However so, and in as much as there is a considerable level of enlightenment in the area of technology, the country is still undecided about the electronic voting system due to the history of malpractice. In plain terms, Nigeria has yet to improve major facilitators of electronic services and due to this setback, the desire to develop technology led institutions could be classified as an "ambitious" goal. In other words, bureaucratic inefficiency has continued to constitute a serious concern, thus, adversely affecting the smooth delivery of public service to the citizens.

The digital divide in the country, especially the wide gap between the rich and poor makes it rather difficult to measure the outcome of being technologically awoke in the country. Being a country occupied by many ethnicity with several languages, the general possibility of having access to the state e-service system might account for a low outcome due to confidentiality issues but more importantly as government websites does not provide the option for people to choose their preferred language. In other words, the websites of all government agencies are programmed in

English language and for those who are more fluent in their local dialect or for persons with disabilities, this might reduce / undermine the service standard.

There are three (3) basic modalities that characterizes the use of the web by the government:

- "To deliver public service

- To engage with citizens

- To serve as an infrastructure that enables others (citizens and private companies alike) to retrieve data provided by the government. Relatively, another reason for developing an e-service system is to simplify governance and support process" http://www.w3.org/TR/egov-improving/.

The Nigerian government developed some initiatives strategically designed to promote e-government some of which includes: The National Economic Empowerment Strategies, Vision 2020 and, the National e-Government Strategy. More so, as part of the growing process, "the collaboration between the National Information Technology Development Agency and the National e-Government Strategies Limited was targeted at providing citizens with a credible and timely information on government activities and programs" (Ajayi G.O 2005). Hence, creating a technological environment for the nation's social and economic development.

Without a doubt there has been a significant development in the creation of websites for government agencies in the last ten to fifteen years in Nigeria. However, it is possible that the average level of technological literacy by many rural dwellers may not support the fast growth in e-governance. As mentioned earlier, it is important to consider the user perception of the clarity and precision of the available information. That being said, "the lack of trust existing between the government and the people is also a major concern for this development" Kampen, Jarl; Walle, K.; Steven, Van De & Bouckaert, Greet (2006). Even though there has been a significant increase in cyber security, in the past, Nigerians have been linked to cyber fraud and because e-government requires the use of personal information (if it is an application related request), this reason and more have made the government somewhat hesitant in the project development. In view of this, the Nigerian Cyber-crimes Act has been voted into law recently specifically aimed at tackling criminal activities through the computer and information systems.

Relatively, the Nigerian e-Government portal http://www.nigeria.gov.ng can be accessed easily, however, at the initial creation, the portal had various limitations. The information available were rather static providing news about the army, the police and links of other government departments. "Apart from the limited availability of broadband connections in the country, there are no e-services integrated into the portal including the absence of a forum-like platform that would have encouraged interactions between the government and the citizens" (Toshio Obi, Naoko Iwasaki 2015). In furtherance to this, "the government began the process of improving the portal in 2007 thus, facilitating considerable contact with the citizens through feedback forms, email addresses available on the website as well as the addition of social media accounts to the main portal. More so, with the establishment of the Nigeria Communication Commission, the creation of http://consumer.ncc.gov.ng, allowed citizens access to podcasts, and opinion polls as well as the ability for businesses to send their complaints if need be" (Owens-Ibie, Nosa 2004).

Regardless of these facts, "there have been a number of government agencies developed to cater for the direct need of the citizens" (Edosa, E. & Azelama, J. 1995). However, "the issue with these agencies is their inability to connect with each other as well as the restraints faced by citizens to directly apply for services" (Abid Thyab al Ajeeli 2011). The National Agency for Food and Drug Administration and Control is a government agency that deals with contraband related issues, expired drugs and the likes. The problem associated with this government website is that the normal bureaucratic process still abides. In other words, registration of products can only be done physically at the headquarters. Another important government agency is the Nigeria Police Force. "The issue of corruption in this institution has made it difficult for the men in uniform to follow due process" (Cookey P. 2005). However, due to the fact that the website of the NPF does not allow a feedback space that allows the people to share their views and opinion, the government may not be able to confront the problem accurately.
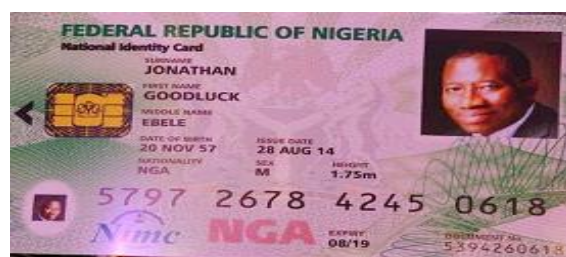

Figure 4: Nigerian ID card

This is a major case that has raised so many eyebrows in the country concerning the incompetence of the government and its agencies / ministries as well as the lack of connectedness between government agencies. In other words, it is important to note that the lack of improvement in the active use of technology in the state is a reason for this setback. Another problem associated with many of these ministries is the fact that they do not really monitor their websites. These government agencies only develop webpages without creating time to interact with the people who visit the sites. Basically, they have no platform for public chats/ blogs.

As a largely populated country, the development of e-services has been advised to begin from the grass-root. "The assimilation of citizens into the process can be instigated by the changes made in local governments" (Toshio Obi, Naoko Iwasaki 2015). The steady process movement in this area can follow the different stages of e-banking development in the banking sector. The creation of a local government website that allows the people to access their information without having to visit their respective local government will not only save time but it will create a foundation for general development. The idea behind this will mean persons from Lagos State living in Abuja (FCT) will no longer have to travel down to the local government in Lagos State to request for their certificate of origin / certificate of identification / birth certificates. They can just make the request on the state website and print it after the request has been processed. More so, with the ability to connect effectively with the National Population Commission, it will be easy for the local government to gain access to the population registry.

The transition from a paper based system to a digitized system has not been achieved in the country partly due to the delay in voting into law the draft Electronic Transactions bills. "This bill is responsible for the formation and validity of electronic contracts and signatures and with the slow legislative process, the implementation might take a while" (Kazeem Oluwakemi Oseni and Dr. Kate Dingley 2015). Another reality of this can be assessed by the nation's voting system. Although many developed country have achieved a high level of stability in governance, but ironically, not every country have been successful enough to implement the I-voting system like in Estonia. Even though the Independent National Electoral Commission created an ID card that verifies voters in an election, there hasn't been any advancement in the area of digital voting. Before this can commence successfully, the government has to be entirely cleansed of corruption and mismanagement. The Ministry of Finance and the Ministry of Foreign Affairs have been

working in tandem to ensure that corruption is gradually eliminated. In this case, the need to include transparency in governance through an open display of state budget is also a step towards good governance.

A noteworthy development can be seen in the step taking towards improving the service delivery process by the Nigerian Electricity Regulatory Commission. The previous phase of paying over charged bills experienced by citizens is gradually becoming a thing of the past with the introduction of the personal meter. This way, each household can pay for the exact price of electricity charges and if exhausted, they can buy units based on what can be afforded. With the introduction of a cashless economy by the government in 2012 (to reduce the manual handling of cash in public), there has been a significant increase in the use of the ATM, internet/mobile banking and even so, citizens have been able to pay their electricity bills via their mobile phones. Also, with the increase in technological awareness as well as the creation of online job portals by private companies like https://www.hotnigerianjobs.com and https://m.careers24.com.ng citizens have been able to gain access to job portals easily. This can be related to the online job portals in Estonia like https://www.cvkeskus.ee/ and https://www.cv.ee/?redirected_name=www.cv.ee being the two most common job portals. In view of this development, some governmental agencies have also began to adopt this medium to make job application easier for the citizens. In 2015 and 2017 respectively, both the Nigerian National petroleum corporation created job opportunities and the Nigerian immigration Service had a massive recruitment display on their websites open for people freely.

A rather commendable improvement is the recent development made by the Nigeria Immigration Service concerning the process of issuing new passports to Nigerians. The Nigerian government now offers only electronic passports for new passport applications and the application can be done either physically at the NIS office or on https://immigration.gov.ng/ their official website. Even though the interview for application cannot be done over Skype etc. for Nigerians, this is still classified as a step towards change. "These electronic passports, also known as the e-passport, are classified as either Standard or Official e-passport, depending on intended use" (Antonio D'Albore 2017). In terms of passport renewal the system is still the same. The time consumed in travel and, the number of weeks it takes to get a renewal confirmation are two major issues still experienced by Nigerians. Basically, "they (Nigerians abroad) have to contact the nearest Nigerian embassy or

consulate from where they reside for guidelines on how to renew their passports. In other words, information about this inquiry is non-existent on the NIS website" (Aderinola Adeola 2006). "The lack of coordination in the process of service delivery by the NIS as well as their inability to prioritize services have often been criticized by many Nigerians both at home and abroad. In 2016, the break in cooperation and communication between the company that supplies passports to the Nigerian government (ISTL) and the NIS led to the massive shortage in issuance of passport since they decided to stop supplying" https://embeddedsecuritynews.com/2017/04/nigeria-long-wait-for-e-passports/ (see link). The Economic and Financial Crimes Commission, Independent Corrupt Practices and other Related Offences Commission, and the National Drug Law Enforcement Agency are some of the other government ministries with websites that are yet to be fully explored.

4.1 **The Effect of Low Infrastructural Development in the Public Sector**

Just like in many developed economies, "there has been a significant improvement in the general use of ICT in Nigeria, from health (electronic records) to education (the introduction of distance learning) and, transportation to tourism in the last fifteen years" (Daniel Egbunu 2017). In spite of this development, the level of infrastructural advancement in the country is relatively low and this has continuously thwarted the expected growth of the public sector. The situation can be likened to a state of moving a step forward and three steps backwards.

The most commonly known issue in the area of development is the epileptic power supply in the country. With reference to countries in Europe, the constant generation of electricity (whether geothermal or green energy source) is undoubtedly one of the most significant triggers of e-government. In other words, a well-functioning power sector results to an effective e-service.
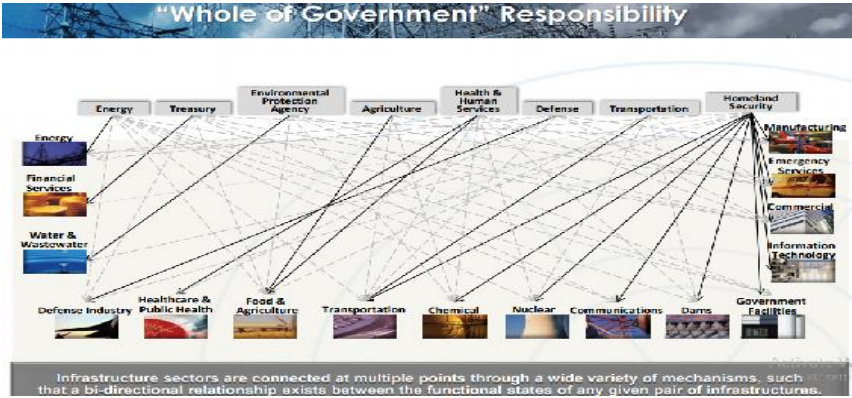

Figure 5: Fred Ruonavar 2017- interconnectedness of infrastructures

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According to the United states Patriot Act of 2001, "Critical infrastructure are the assets, systems, and networks, whether physical or virtual, so vital to the United States that their incapacitation or destruction would have a debilitating effect on national security, economic stability, public health or safety, or any combination thereof" https://obamawhitehouse.archives.gov/the-press-office/2013/02/12/presidential-policy-directive-critical-infrastructure-security-and-resil Presidential Policy Directive 21 (PPD-21): Critical Infrastructure Security and Resilience (see both links). In essence, the mismanagement and minimal investment of these infrastructure will either arrive at a low turnover in the public sector assessment or have little or no impact in state development. Some of these infrastructures include; electricity / power, roads, air and sea ports, ICT, and water resources.

Energy/ Electricity is a constant necessity that is needed to carry out both operational activities and facilitate workflow and continuity. Without the power grid the organization / state will not be able to function properly or function at all especially now that digitization, innovation and new technologies have become the order of the day. In view of this, the current situation faced by majority of the citizens in the area of expensive and low internet access, have also constituted a barrier for both effective growth and usage of services. In many government offices, there is a relatively low level of qualified experts as well as the low investment in technical experts, in this instance, most of the staffed engineers in the power sector have a degree in philosophy, psychology and even banking and finance. In a nutshell, the issue of favoritism over merit continues to endanger the development of the sector especially if the higher percentage of workers are incapable of defining specific job requirements.

More realistically, the development of the nation's infrastructural facilities might take a rather slow movement due to the financial and political state of the economy. "The debt that has been incurred over the last two decades on loans received from the IMF and World Bank would have to be officially settled before the state can move forward with any form of e-service development. More so, the recent health state of the president has not made the process of growth in the public sector any easier" (Nawafleh S.A, Obiedat R.F. Harfoushi O. K 2012). Due to the poor state of the economy, the government are mostly focused on housing, feeding, health, security, employment, and education therefore losing track of the needed / required investment to develop internet access, purchase computer equipment including software applications and most importantly, the need to

invest in training and technological workshops. In any case, it is safe to point out that regardless of the upgrade in infrastructural policies, if the Nigerian government fails to devise means for remodeling the energy sector, the mission to integrate existing/ new services might not be feasible.

"Development of e-governments is directly proportional to the IT infrastructure that is capable of supporting and enabling the execution of e-government" Basu 2004. "An e-government infrastructure in general comprises network infrastructure, security infrastructure, application server environment, data and content management tools, application development tools, hardware and operating systems, and systems management platform" Subhajit Basu (2004). Nonetheless, because many developing countries do not have the infrastructure necessary to deploy e-government services throughout their territory, the huge disparity between developed and developing countries continues to expand.

The low investment in the area of ICT is also a major challenge in the development of e-services and stabilization of e-government in the country. There has been several discussions concerning the introduction of new technologies in government agencies but the government have not necessarily taken proper steps to put it into action as a result of the slow legislative processes. An alarming development in the nations' public sector is the lack of technical knowledge in software /web operations and management displayed not only by many state workers but also by the heads of ministries and agencies. However, in order for the government to move forward with the upgrade of e-service platform and much more the possibility to use XROAD (which is a technical and organizational environment, which enables secure Internet-based data exchange between the state's information systems), the need to properly invest in better and more secure underground construction of connected wires is paramount. Also, the need to organize training in software engineering, the need to invest in newer versions of technology, as well as the need to invest in the recruitment of tech-experts is most imperative.

The government have taken considerable step in the incorporation of a technology based system towards the development of the education sector in recent times. The distribution of technological equipment like computers etc. in state schools and the gradual changes made in school science laboratories are all part of the developmental process. However, this change does not reflect on the outcome. In view of this, there hasn't been an increase in the use of these technologies in these schools due to their inability to operate them, the expense in internet accessibility and the low or

in some cases, scares power supply. In other words, "more accumulation of computer does not automatically generate better government and better lives for citizens, rather Smart use of ICTs will make a difference" Dr. Jon. P. Grant 2008.

4.2 **Developing New Strategies**

As an overly populated low income country, there is little the government can do with ICT by remodeling the existing e-services not only to promote electronic interaction between government and the citizens but also to improve the living condition of the people. West observes from his annual global survey of e-Government (http://insidepolitics.org/), "Most governments around the world have gone no further than the billboard or partial service-delivery states of e-Government. They have made little progress at portal development, placing services online, or incorporating interactive features onto their websites. "Not only are they failing to use technology to transform the public sector, their efforts mostly consist of no meaningful change or small steps forward" West 2005.

Figure 6: Government objectives

The above diagram is directed towards:

- Improving online data collection to reduce data entry costs and automate error checking;

- Reduce the communication costs with citizens;

- Greater sharing of data within government and between governments and other such stakeholders as NGO's, international agencies, and private sector firms;

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- Greater re-use of data;

- "Reduce government publication and distribution costs through online publication" (OECD 2003).

That being said, the Nigerian government have begun the building process by partnering with stakeholders to increase technology induced learning including skilled usage. Just recently, the Oyo State government (one out of the 36 states in the country) partnered with a leading technology company (Signal Alliance) in Nigeria to kick off a project called 'Microsoft Imagine Academy' https://itpulse.com.ng/2017/11/03/microsoft-signal-alliance-to-give-800-computers-to-pupils-in-oyo-state/ (see link). This is basically an education transformation project aimed at bridging skills gap usage of Microsoft technologies. This development have spread to seven (7) cluster learning centers, thus providing them with about 800 preloaded desktops with UPS scanners and printers. Notably, this project is targeted at helping students, teachers and even administrators in education as well as professionals gain access to online courses, classroom curriculum, certification in basic computer skills and high level programming to mention but a few. In view of this, "Public agents in developing states must be equipped enough to influence change and contribute to the various developmental processes in the state in order to be able to combat the factors affecting the growth of e-services" (Fichman and Kemerer 1999). This will ultimately improve skilled employment and trigger the increase in soft skills in Microsoft office tools, thus enabling a general understanding of software usage. In furtherance to this, the Oyo State government have also been working towards the process of approving licenses for the same education transformation project to promote standardization and efficiency purposes.

Evidently, "e-Government is a combination of different innovative processes and strategies that is dependent on the systematic integration of ICT components both old and new alike of imperative functions aimed at maintaining an effective service delivery system" Grant 2008. However, it is important to note the fact that "many e-Government initiatives involve a certain level of coordination and communication with almost every functional unit of the organization related to government service" Eddy Lee, Marco Vivarelli (2006). Hence, the need to have experts/ skilled workers on sight. For many government agencies, the pool of employees with the requisite information technology skills is quite small and this limits the possibility of growth and development. "Veteran employees have mainframe and PC-era skills and lack such internet-era

skills as managing and developing client-server software-based solutions" Samuel 2015. In this instance, many government offices have a higher number of aged workers against the high percentage of young, skilled and vibrant graduates who are without employment. This situation is very common in Africa and for this reason, the level of enlightenment in the public service continues to depreciate and the inability to spread new knowledge for innovation remains stagnant. In view of this, it has become a rather difficult task for countries in Africa to keep up with the technological development in Europe and America.

Consequently, "governments are actively forming partnerships with the private sector and civil society to garner the expertise needed" (Nawafleh S.A, Obiedat R.F. Harfoushi O. K (2012). Through these partnerships, the partners are sharing risks and rewards, their employees are working seamlessly together, and their employees are also co-developing and exchanging ideas and knowledge and learning through joint problem-solving activities. One of such partnerships can be seen between the government of Mozambique and Italy through the GovNet initiative. "GovNet will allow the government of Mozambique to implement new e-Government systems that improve its internal operations and better connect with its citizens" Grant 2008.

Most developing countries understand the benefits inherent in the incorporation of a tech based society however, the cost of developing this dream is often considered as a setback. In Nigeria, even though the government have not been able to provide constant power supply to support workflow, the internet can still be accessed using a powered generator. This has led to the creation of many small scale businesses like cybercafé, football viewing centers and even game centers. In any case, this solution has only been successful for families or private businesses who can afford the cost of fuel and repair. Nevertheless, it is important to note that "the development of a well-functioning information infrastructure comprising a high speed internet communication not only improves tourism as well as trade, commerce and industry but it also boosts/ enhances the delivery of government services to the people" Subhajit Basu (2004).

4.3 **Conclusion**

This chapter gave an in-depth explanation on the current level of development in the area of e-services in the country. Although there have been a considerable amount of improvement in the upgrade of government websites, the problem of low infrastructure as well as the issue of interoperability continues to limit active use by citizen thus, hindering the development process.

Chapter Five

5.0 Research Results

This chapter focuses on analyzing the data collected from interviews as well as the themes gathered during the coding process.

5.1 Data Analysis

In order to build a transparent conclusion on all the data collected during the research both from interviews (qualitative) and relevant academic documents(quantitative), the consistency in the data analysis process increases research validation.

The whole idea behind the use of a qualitative research methodology is to be able to substantiate and justify the study. Qualitative research involves the accumulation of evidence gathered during interviews and the ability to interpret these data without bias. More so, aside the need to ensure transparency, it is most imperative to note that qualitative research also involves creating a well comprehensive study for the audience/readers.

The addition of a quantitative method i.e. the use of academic documents in this research is also important because it provides some relative background literature to the study. As a result, this inspires and gives the researcher the opportunity to explore the research even further. The essence of conducting a credible scientific research is centered around the need to effectively use viable resources at ones disposal. Although qualitative research methodology is the main method used for data collection, the quantitative method is also essential and cannot be overlooked.

5.2 Data Coding

Coding is a significant aspect of a research particularly in the area of data analysis. Using a qualitative research methodology as explained earlier usually entails or involves acquiring mass data and having to break down the meaning of each data collected into different themes requires a technique. In view of this, coding helps to organize and interpret all data collected thus into different categories to make the research unambiguous. However, in this research, coding will be done by using RQDA, a computer software used in a qualitative research data analysis process. Thus, processing all data received during interviews.

5.3 **Interview Analysis**

The primary source of data collection for this research was done through interviews. Being a qualitative research methodology, the goal was to interview as many participants as possible in order to arrive at different views and opinion concerning the phenomenon in view.

Due to the inability of being physically present in the country being studied, the interview session for each interviewee was carried out using a remote method via WhatsApp and Skype. Thus, recording all responses for documentation. In the process of carrying out these interviews, some of the citizens between 75-85 though responsive to the process, found it challenging to understand the questions as is. Nonetheless, they were able to give a detailed explanation on their service experience. Among the other people interviewed were citizens between the ages 45-55 from different backgrounds, company CEO and a Government official.

In furtherance to that, each of the interview lasted approximately 2- 2.5 hours mainly due to the process through which the data was collected. Issues of network interruption and the process of explaining each question took a larger part of the time spent. In three of the cases, i.e. interview process, the participants considered as the older demographic decided to use an interpreter in order to have a better understanding of the questions of course without any form of alterations.

Table 1: List of interviewed participants

Country	Name of interviewee	Age	Occupation
South Africa	Glad	42	CEO Cloud Exchange West Africa
Nigeria	Efe	40-45	ICT Projects Mgr. for the Nigerian Fed Gov.
Nigeria	Robert	80	Retired Banker (Pensioner)
Nigeria	Sarah	32	IT Sales Professional

During the process of coding the interviews, seven (7) major codes were analyzed and broken down as they were mostly connected to each other.

- Service accessibility

- Organizational cooperation

- Process consistency

- Resource availability

- Attempt towards participation

- Media usage

- Effectivity of service

Most of the information gathered from the participants were grouped according to the codes mentioned above for better comprehension. Using the thematic data analysis approach has made the process of analyzing the large amount of data collected during the interview easier.

In view of this, Progressive was the major theme derived from the coding process and the sub-theme is Change. Judging from the data gathered during the interview process, it can be seen that there has been a lot of effort being made towards the development process of e-services by the government. Hence, the reason for the sub-theme. Under the sub-theme "Change", three components were derived:

Integration – In the coding process, the participants classified the involvement of private companies as the change needed towards service upgrade and progressive development.

Service Optimism – The participants were quite optimistic about future e-services. According to one of the interviewee, the state e-service system has changed and evolved over the years and because of this more can be expected from the government in areas concerning service accessibility.

Cost of Involvement – Also in the process of analyzing the codes, the participants considered the effort made towards participation to be costly due to limited resources particularly in the area of internet connectivity.

However, the government have begun the process of regulating activities of private telecom companies (like Mtn, Airtel & Glo) by opening her market to more service providers. Hence, making monopoly almost invincible. This initiative is gradually leading to low tariff rate competition by these service providers through the Competition Practices Regulation (2007), under the Nigerian Communications Act which provides a regulatory framework for the promotion against misuse of market power or other anti-competitive practices.

That being said, for the older demographic, it was obvious they were more concerned about the availability of resources being a major trigger for involvement and participation. According to this age group, even though there have been a considerable growth in the state communication system unlike how it was in the past, the active use of electronic services in the state cannot be totally possible if the government fails to provide better electricity options. More emphasis were placed on this point because it costs more for an average Nigerian or even a business owner to be actively involved in state activities because not everyone is able to afford internet connectivity or the maintenance of a generator plant. In furtherance to the previous point, responses from participants aged between 40-45 were quite similar to that of the older demographic in the area of media. They were of the opinion that since most Nigerians are still not actively involved in the use of technological gadgets, the only most reliable way for the government to constantly pass information across is through the media. As mentioned earlier, the cost of being connected to the internet is very high and so the use of television and radio is considered the most reliable option. However so, from the information gathered, it was evident that level of e-services in the state maybe characterized as ineffective because many of the citizens still make service request physically rather than digitally.

5.4 **Conclusion**

The main method of data collection was done using the qualitative research methodology involving interviews with participants between 30-80 years old.

Interviews were carried out via Skype and WhatsApp and one interview lasted between 2-2.5 hours. During the coding analysis, three theme components were derived as they described the thoughts of the participants interviewed. The participants were open and willing to share their thoughts and experiences concerning the topic under review.

Chapter Six

6.0 Research Validity and Limitations

6.1 Validity procedure

Credibility and transparency are the two most important aspects of any scientific research. In addition to that, this section will focus on describing the study validation and limitations. However, because this is a case study research, it is important to explore the expressions of participants and their response on respective questions. Hence, playing an active role in the research outcome through data analysis and processing.

6.2 Study Validation

In a case-study based research the use of a qualitative research methodology can be considered the most suitable approach for data analysis. This is mainly due to the fact that it helps to accumulate authentic information from participants within the area of research. Qualitative analysis gives an in-depth analysis on the root causes of developments and motivates different feelings and expressions from participants involved.

The use of credibility and transparency in this area of research helps to solidify the main objectives of the research without bias. However, because the aim of the research is channeled towards interviewing key participants, the general idea was to capture their views and experiences in relations to the study. By conducting several interviews, the research becomes open to several interpretation of events based on different views thereby validating the data collection process.

According to the authors of Case Study Research in Software Engineering, "the use of triangulation is used to support a strong and relevant conclusion by linking different figures, statements and other kinds of evidence. It also helps to increase the precision and strengthen the validation of empirical research. In view of this, the use of data triangulation (i.e. having multiple interviewees) in this research is noteworthy" Per Runeson, Martin Host, Bjorn Regnell, Austen Rainer (2012). In furtherance to this, investigations made by Bratthall and Jørgensen on the basis of empirical evidence from the case study that "a multiple data source case study is more trustworthy than a comparable single data source case study" Per Runeson, Martin Host, Bjorn Regnell, Austen Rainer (2012).

6.3 **Study Limitation**

The need to give an accurate analysis based on findings is important but due to the large amount of data collected the process can certainly be challenging. For the most part, researchers are sometimes occupied with collecting large amount of materials and this might allow them lose track of what is important thus, deviating from the main study objectives.

During the process of data collection, a major limitation was having to explain the research questions to some of the participants without necessarily influencing their responses. These participants are categorized under the older demographic and because many of them are not tech-savvy, it caused a certain set-back as the process was often repeated.

6.4 **Conclusion**

The essence of this chapter is to explain the challenges faced when conducting a qualitative research. Because the motive behind a case study based research is specifically targeted at projecting a reliable and credible research, the collection of data in this case is mostly cumbersome. In view of this, there is a large amount of data collected from multiple interviews and the process of analyzing data has to be transparent.

That being said, the use of data triangulation method was incorporated to ensure study validity and research credibility. This way, the research can benefit from responses received from different sources thereby eliminating any form of bias.

Chapter Seven

7.0 Conclusion

7.1 Summary of Findings

The current state of e-services in developing countries today have been mostly influenced by the development in European countries. Looking at the standard of electronic services in Estonia today it is most certain that many African countries still have a lot of work to do in this area. Although there has been a considerable improvement in the level of technological awareness in developing countries in recent times but one out of the many reasons why the development of electronic services is moving at a slow pace is mainly due to misappropriation of funds. For most Nigerians, this is relatively linked to corruption because state leaders are more concerned about enriching their personal accounts as opposed to providing better services for the people.

The influence of globalization as explained in the previous chapters can also be regarded as a major trigger towards the use of technology in developing countries. Ideas received from other via social media or in formal terms, by the state foreign affairs department constantly improves the knowledge of not only the government but of the people as well. People are becoming aware of the unlimited use of technology and as a result, it has changed so many lives especially in the area concerning healthcare. This development has instigated both competition and the drive to upgrade services between private companies and government offices.

Undoubtedly, technology is the main trigger towards electronic service development and integration. In view of this, globalization, being an agent of change, introduced new ways of doing things, techniques, methods and even new processes. It is a term that can be used to explain the increase in trade as well as the rise in technology transfer" (Eddy Lee, Marco Vivarelli 2006). The introduction of new technologies in developing countries not only promoted the idea of developing electronic services but it also increased enlightenment.

With reference to the above, and with the introduction of GSM in Nigeria, there has been unlimited use of the internet by citizens to garner information from all around the world. That being said, government agencies like the FRSC have also made good use the opportunity by sending messages to citizens who applied for their driving license via SMS.

The upgrade of the already existing electronic services in Nigeria is still moving at a rather slow pace due mainly to neglect. With the current government, focused has been shifted towards the fight against corruption campaign thus, leaving that part unattended.

However, regardless of the low effectivity of the state's e-service system, there is a large number of Nigerians who make use of government e-services daily. Many of the aforementioned persons are Nigerians in diaspora. Although the possibility to vote online while abroad is not still visible, but the ability to make online request for passport renewal (when expired) on the state immigration portal is considered a step towards development.

As a growing economy there are many challenges hindering the upgrade and also development of e-services in the country. The issue of gerontocracy which practically means having leaders who have little or no knowledge about technology or innovation that could make a difference is a major obstacle towards growth. There have not been many ideas on how to improve the state service portal and this is evident in some of the government websites. The issue is not whether these portals/websites exists rather the problem is mostly related to accessibility and user friendly interface of the websites.

Regarding the data collected during the interview, it was observed that Nigerians are mostly concerned about the proper distribution of power generation and internet connectivity. This is because the possibility of using electronic state services effectively cannot be guaranteed without resource availability. Looking at developed countries, the proper maintenance and use of these services is built on standard infrastructure and this is evident in states like Estonia, South Korea, and the united kingdom.

According to the older demographic, there has been a considerable improvement in state services compared to the time when things were done manually. However, being retired, there isn't a specific state information portal from which they could get information about their pensions. For these senior citizens, information is key and by having it when needed, it saves them the stress of moving from one government house to the other for major updates. These age group are also more concerned about the state of infrastructure in place, and the cost of being actively involved in government portals due to insufficient resources i.e. the cost of internet broadband as many of them cannot afford to spend thousands of Naira (Nigerian currency) on internet connectivity.

Participants between 40-45 years old that were interviewed expressed their views on the need for more development on government websites as the webpages are slow and responses are mostly late.

A particular participant who is originally from South Africa mentioned how an upgrade on electronic services can boost/increase the involvement of Nigerian citizens who are abroad. In his view, there is a very low participation level of Nigerians living in diaspora and this has also contributed / accounted for the low opinion polls.

Basically, without a proper/ effective website like the one developed by South Korea, the government will be missing some vital feedback from the people as well as beneficial information from citizens all over the world. As the CEO of an IT company, the participant discussed his opinion on the state electronic services.

Just like many Nigerians, the interviewee does not make use of online state services but rather he prefers to visit the offices of government agencies if the need arises. Being an IT executive, the interviewee was impressed with the private-public collaboration towards service development. He mentioned how private companies are really committed in this process by going into partnership with the state government for building transformational solutions that will create enabling environment. Private companies are also going into personal investments that will grow the economy and improve life of the residents

On the other hand, the other participant working for the federal government had a different opinion about the low investment culture of the government in electronic services. According to him "Private sector and international donor agencies' participation is the panacea for active growth and development of IT in any forward looking state. The Fed or State Governments cannot single handedly fund these projects without these required support". In essence, the development of an effective electronic service is not only the responsibility of the government put also of private companies together.

participants between 20-30 years expressed the fact that the actual upgrade of government services will ultimately account for limited stress in their daily endeavors. In other words, if there is a proper platform to apply for services or access vital information online then the time spent on the frequent visits to state agencies will be used productively for school related activities.

7.2 **Impact and Implications**

Electronic service development is considered a significant aspect in the promotion of good governance. The key word "good governance" is a reflection of improved services rendered to the entire citizenry. In other words, the implementation of electronic services enables the government to achieve this level of competency.

Considering how developed countries have improvised on the use of technology, its many benefits have encouraged developing countries to embrace this global change.

That being said, in other to achieve the full benefits of electronic services so many factors has to be considered. Factors such as stable leadership, economic stability, a considerable level of literacy, modern infrastructural development to mention but a few.

The development of an electronic service is expensive and requires constant maintenance as well as highly skilled IT experts to constantly monitor it.

The bus system in Europe is very advanced. In Estonia for instance transportation is free but in order to move freely, the electronic bus system enables people to clock in their cards provided it has been activated. See https://m.transport.tallinn.ee/mobile.html#bus/17/a-b/03003-1. Also, regardless of where a person is from, anyone can access the bus timetable by simply downloading the application. This system is highly effective and easy to access. In other words, replicating such services in developing countries requires advanced infrastructure and constant maintenance.

In any case, the development of electronic services though beneficial in many ways, it might be a bit complicated for the older generation partly due to their little knowledge in the use of technology but also because many of them are used to the old system of requesting for services physically at government offices.

Also, being a multilingual state, having various languages could be a barrier to the increased use of electronic services by these age group.

7.3 **Future Work**

This study was focused on the use of electronic services in developing countries but the main focus was targeted at Nigeria. Some of the participants who were key sources gave different reasons why they cannot use government services and emphasized mainly on the fact that some of these state websites are due for upgrade. In view of this, these responses constitute a significant aspect of the data collected to justify this research.

There are several questions regarding how the government can successfully embark on the transition from a paper based system to digitization but the response have always been directed at misappropriation of funds in state house. In any case, this could be researched further.

However, will the fight against corruption engender the development of these services to promote its active use and increase citizen involvement in government / state affairs? Based on the data collected during the research, it is possible that the struggle to end bureaucratic practices and corruption may not be sufficient enough to develop an efficient electronic services for the use of the people. Cooperation of the private companies and their willingness to get involved in the development process is also noteworthy.

More research can be done on the way to properly integrate the older-demographic into the system. However, will the development of state websites into a user-friendly platform encourage the increase the use of services by this age group? Provided there is an option on the state website for every citizen regardless of the age group to choose their preferred language, will this insight promote good governance and better use of government services?

Could the integration of developed state services such as electronic tax system, e-healthcare (although non-existent) etc. reduce the barriers of accessibility by rural dwellers?

That being said, it is important to note that many African countries are largely governed by aged leaders some of whom are not ready to abdicate their seat in power. In this case, more research could be done on how the younger generation can make a difference in the area of technological development in African states by being in power. Since we are living in a digital age and social media has become an integral part of information dissemination, more work can be done on the pros and cons of increasing its use for state related activities.

References

Osborne, D., and Gaebler, T. (1992), Reinventing Government: How the Entrepreneurial Spirit Is Transforming the Public Sector. Reading: Addison-Wesley.

Okot Uma NK, Rogers WO (2005). The Roadmap to e-governance implementation: a selected perspective on the impact of technological development. Wellington New Zealand.

Dada J, (2007). Global information society watch report in view of governance (retrieved from www.giswatch.org/files/pdf/GISW_2007.pdf.

Kamar N, Ongo'ndo M (2007). Impact of e-Government on Management and use of Government Information.

Jessica Santos, (2003) "E-services Quality: a model of virtual service quality dimensions" An International Journal, Vol. 13 Issue 3.

Matthias F, Gaëlle P (2003). From e-Government to e-Governance? Towards a model of e-Governance, assessing Status through Content Analysis of Government.

H. Samuel (2015) Electronic Governance and Administration in Nigeria: Prospects and Challenges. A Journal of Business and Management Review, Vol. 5, No.3.

Tejavee, S. et al. (2010), E-Governance and Effective Deliverance of Information and Services to Citizens Architecture, International Journal of Computer Science and Information Technologies, Vol. 1, No.4

Adeboye, T.O (1995), Governance and Economic Development, A paper presented at Good Governance for Africa Conference, Maastricht, 23-24 November.

Castells, M (2000), End of Millennium, 2nd edition, Oxford: Blackwell.

Coleman, S et al (2002), Bowling Together: Online Public Engagement in Policy Deliberation, London: Hansard Society.

Coleman, S. (2008), "Foundation of Digital Government in Chen, H., Brandt, L., Gregg, V. et al (eds), Digital Government: E-Government Research, Case Studies, and Implementation, New York. Springer Science+ Business Media.

Budhiraja, R (2003) Electronic Governance: A key issue in the 21st century, Electronic Governance Division, Ministry of Information Technology.

Miniwatts Marketing Group (2017) Internet World statistics: Usage and Population Statistics http://www.internetworldstats.com/stats.htm

Franco Malerba, Ed. (2004) Sectoral Systems of Innovation: Concepts, Issues and Analyses of Six Major sectors in Europe, Cambridge University Press.

Michael parent, Christine A. Vandebeek, Andrew C. Gemino (2005) Building Government Trust through E-Government, Government Information Quarterly vol. 22, Issue 4. Available at https://doi.org/10.1016/j.giq.2005.10.001 [Accessed 17 December 2017].

Patrick Dunleavy, Helen Margetts, Simon Bastow, Jane Tinkler (2006) New Public Management is Dead; Long Live Digital -Era Governance. Journal of Public Administration, Research and Theory, Vol. 16, Issue 3. Available at https://doi.org/10.1093/jopart/mui057 [Accessed 17 December 2017].

Chung C. (2015). The introduction of E- Government in South Korea: Development Journey, Outcomes and Future. 1st ed. [e-book] Seoul: National Information Society Agency, Ministry of Public Administration and Security. Available at: http://unpan1.un.org/intradoc/groups/public/documents/UNGC/UNPAN043625.pdf [Accessed 20 December. 2017].

National Computing and Information Service (2017) The Heart of Korean e-governance [online] Available at [Accessed 23 December 2017].

Kim, H. (2011). E-Government & Information Society of Korea - Strategies and Best Practice. [Online] Available at: https://www.moi.go.kr/eng/sub/a03/EGovernment/screen.do [Accessed 23 December. 2017].

Heeks, R., Ed. (1999). Reinventing government in the information age: International practice in IT enabled public sector reform. London, Routledge.

Eddy Lee, Marco Vivarelli (2006). The Social Impact of Globalization in Developing Countries. Available at http://ftp.iza.org/dp1925.pdf [Accessed 23 December 2017]

West, D. (2005). Digital government: Technology and public sector performance. Available at (http://insidepolitics.org/) [Accessed 14 February 2018]. Princeton, NJ, Princeton University Press.

Kingston, R. (2007). "Public Participation in Local Policy Decision-making: The Role of Web-based Mapping." Cartographic Journal 44(2): 138-144.

Kling, R. (2000). "Learning about information technologies and social change: The contribution of social informatics." The Information Society 16: 217-232.

Korpela, M., H. A. Soriyan, et al. (2000). Made-in-Nigeria Systems Development Methodologies: An Action Research Project in the Health Sector. Information Technology in Context: Studies from the Perspectives of Developing Countries. C. Avgerou and G. Walsham. Burlington, VT, Ashgate Publishing Company: 134-153.

Fichman, R. G. and C. F. Kemerer (1999). "The illusory diffusion of innovation: an examination of assimilation gaps." Information Systems Research 10(3): 255.

Garson, G. D. (2006). Public Information Technology and E-governance: Managing the Virtual State. Sudbury, MA, Jones and Bartlett.

Gil-Garcia, J. and L. Luna-Reyes, Eds. (2003). Towards a definition of electronic government: A comparative review. Techno-legal Aspects of the Information Society and the New Economy: An Overview. Badajoz, Spain, Formatex.

Gupta, B., S. Dasgupta, et al. (2008). "Adoption of ICT in a government organization in a developing country: An empirical study." The Journal of Strategic Information Systems in Press.

Carter, L. and F. Belanger (2005). "The utilization of e-Government services: citizen trust, innovation and acceptance factors." Information Systems Journal 15: 5-25.

Chen, P. (2008). Electronic Governance. Oxford Companion to Australian Politics/Oxford Reference Online. B. Galligan and W. Roberts, Oxford University Press.

Clarke, D. (2001). E-governance in Ghana: National Information Clearing House. Montego Bay, Jamaica, International Institute for Communication and Development.

Zhiyuan Fang (2002) E-Government in Digital Era: Concept, Practice, and Development. School of Public Administration, National Institute of Development Administration (NIDA), Thailand. International Journal of the Computer, the Internet and Management, Vol. 10, No.2. p.11

Kotilainen, M & Kaitila, V. (2002)."Economic Globalization in Developing Countries", the Journal of Economic Development in Developing Countries.

Piaggesi Danilo (2011) Global Strategy and Practice of E-Governance: Examples from around the world. Information Science Reference, IGI Global.

Gia Kiknadze (2007) Observation of Legal Framework of Information Transparency in Georgia: Introduction of electronic transparency in Georgia. p. 14, Tbilisi.

De Kare-Silver, M. (2011). E-shock 2020: How the Digital Technology Is Changing Business and All Our Lives. Palgrave Macmillian. Hampshire. P.125.

Isaac Kofi Mensah (2016) Overview of E-Government Adoption and Implementation in Ghana. International Journal of Economics, Management and Engineering. Vol. 10. No.1

Per Runeson, Martin Host, Austen Rainer, Bjorn Regnell (2012) Case Study Research in Software Engineering. John Wiley & Sons, Inc., Hoboken, New Jersey. www.it.e-books.info

Toshio Obi, Naoko Iwasaki (2015) A Decade of World E-Government Rankings. (E-books) IOS Press.

Kazeem Oluwakemi Oseni and Dr. Kate Dingley (2015) Roles of E-Service in Economic Development, Case Study of Nigeria, a Lower-Middle Income Country. International Journal of Managing Information Technology (IJMIT) Volume 7, No.2. pp. 17

Kazeem Oluwakemi Oseni and Dr. Kate Dingley (2014) Challenges of e-Service Adoption and Implementation in Nigeria: Lessons from Asia. World Academy of Science, Engineering and Technology International Journal of Computer and Information Engineering Vol. 8, No.12

Kendall, K. and J. Kendall (2008). Systems analysis and design. Upper Saddle, NJ, Pearson Education, Inc.

Abid Thyab Al Ajeeli (2011) Handbook of Research on E-Services in the Public Sector: E-Government Strategies and Advancement.

(Cookey P. 2005) Corruption stall Nigeria Development. World Bank Financial Standard pp. 9

Ajayi G.O (2005) E-Government in Nigeria's e-Strategy. Available at http://www.nitda.gov.ng/papers [Accessed 8 February 2018].

Samuel Oni, Aderonke Oni, Daniel Gberevbie (2015) Electronic Mediated Administration and Public Service Delivery in Nigeria. Acta Universitatis Danubius. Administratio, Vol 7, No 2. Available at http://journals.univ-danubius.ro/index.php/administratio/article/view/3082/3076 [Accessed 8 February 2018].

Darma, Nazifi Abdullahi & Ali, Muhammad (2014). An assessment of public sector service delivery in Nigeria: A case study of federal capital territory area councils, 2007- 2011. *International Journal of Development and Sustainability*, vol. 3, no. 8, pp: 1756-1776.

Kampen, Jarl; Walle, K.; Steven, Van De & Bouckaert, Greet (2006). Assessing the Relation between Satisfaction with Public Service Delivery and Trust in Government: The Impact of the Predisposition of Citizens toward Government on Evaluations of its Performance. *Public Performance & Management Review*. Vol. 29 (4), pp. 387-404.

Besley, Timothy & Ghatak, Maitreesh (2007). Reforming Public Service Delivery. *Journal of African Economies*, vol. 16, AERC Supplement 1, pp. 127 –156.

Snellen, I. (2005). E-Government: A Challenge for Public Management. In Ferlie, E. Lynn, L. E. and Pollitt, C. (eds). The Oxford Handbook of Public Management, pp. 399 - 420.

Zouridis, Stavros & Thaens, Marcel (2003). E-Government: Towards a Public Administration Approach. Asian Journal of Public Administration, vol. 25, no 2, pp. 159-183.

Obaro, O. A. (2005). Public Service and Development in Nigeria: Problems and Prospects. BIU Journal of Social and Management Sciences, vol.3, no.1, pp. 110-120.

Owens-Ibie, Nosa (2004). Communication and Development in Nigeria: A Discussion. African Journal of Political Science, vol. 9 (1), pp. 71-83.

Edosa, E. & Azelama, J. (1995). Institutions of Government. In Ikelegbe A. O. (eds) Politics and Government: An Introductory and Comparative Perspective. Benin City: Uri Publishing Ltd.

Batta, Mohit; Sethi, Ashwani & Kaur, Rajdeep (2012). E-Governance in E-Administration. International Journal of Computing & Business Research.

Gaëtan Tremblay (2012) from Marshall McLuhan to Harold Innis, or from the Global Village to the World Empire. Canadian Journal of Communication (CJC) vol. 37. No. 4

Article by Aderinola Adeola (2006) a view from Scandinavia since 2006 [Online source]: Available at https://aderinola.wordpress.com/2012/03/15/nigerian-immigration-service-how-not-to-issue-new-international-passports-to-nigerians-abroad/ [Accessed 10 February 2018]

Antonio D'Albore (2017) In-depth Analysis on Smart Card and Digital Life, "Nigeria- long wait for e-Passports" Available at https://embeddedsecuritynews.com/2017/04/nigeria-long-wait-for-e-passports/ [accessed 12 February 2018]

Daniel Egbunu (2017) Daily Trust. Nigeria: Innovative Public Service, Doing More with Less. Available at http://allafrica.com/stories/201703120075.html [Accessed 12 February 2018]

Fred Ruonavar (2017) Understanding Critical Infrastructure and ICS Available at https://moodle.hitsa.ee/pluginfile.php/1857650/mod_resource/content/1/1a.pdf Presidential Policy Directive 21 (PPD-21): Critical Infrastructure Security and Resilience and https://obamawhitehouse.archives.gov/the-press-office/2013/02/12/presidential-policy-directive-critical-infrastructure-security-and-resil [Accessed 12 February 2018]

Nawafleh S.A, Obiedat R.F. Harfoushi O. K (2012) e-Government between Developed and Developing Countries. iJAC Vol. 5 Issue 1. Available at http://dx.doi.org/10.3991/ijac.v5i1.1887 [Accessed 13 February 2018]

Dr. Jon P. Grant (2008) "Report on Electronic Government for Developing Countries". Available at www.itu.int/ITU-D/cyb/app/e-gov.html [Accessed 14 February 2018]

IT Pulse (2017) [Online Source] Microsoft Imagine Academy. Available at https://www.microsoft.com/en-in/education/imagine-academy/default.aspx / https://itpulse.com.ng/2017/11/03/microsoft-signal-alliance-to-give-800-computers-to-pupils-in-oyo-state/ [Accessed 15 February 2018]

Subhajit Basu (2004) "e-Government and Developing Countries: An Overview". International Review of Law Computers & Technology, Volume 18, No. 1, pp.109–132

OECD (2003). The e-Government imperative. Paris, France, OECD Publications.

Per Runeson, Martin Host, Bjorn Regnell, Austen Rainer (2012) Case Study Research in Software Engineering, Guidelines and Examples. Published by John Wiley & Sons, Inc., Hoboken, New Jersey.

Appendix 1: Interview Questions and Answers

Interview One

1.1.1   How old are you?

Ans- 42

1.1.2   What is your profession?

Ans- Chief Executive Officer

1.1.3   Where do you work?

Ans- Cloud Exchange West Africa Limited

1.1.4   How does the public service system influence your daily activities?   Effectivity of service

Ans- No effect on my daily activities

1.1.5   How often do you use the state public service?

Ans- Not often

1.1.6   How do you apply for regular services?

Ans- Make payment at the required offices

1.1.7   Do you have a constant internet connection?

Ans- Yes but private

1.2   What in your opinion can be done to improve the public system?   Service Accessibility

Ans- Public systems must be available always, free and easily accessible

1.3   How will you rate the state information system?   Effectivity of service

Ans- 10%

1.4   What should be changed in the state public system?   Process consistency

Ans- More investment in public infrastructures

Affiliated to RQ1:

The ideal quality of investment can reduce limitations and increase the active use of technology in the state.

• What is the effect of stakeholder cooperation in the development process?

Ans- Private companies are really committed in this process by going into partnership with the state government for building transformational solutions that will create enabling environment. Private companies are also going into personal investments that will grow the economy and improve life of the residents. Process consistency, Organizational cooperation

• How can the state promote digital culture and increase value?

Ans- Availability, quality of service and affordable

• What is the current level of technological advancement in the state? Process consistency

Ans- The state is really investing in infrastructure such as IOT and PPP initiatives with private companies

• How can political and ideological differences affect the use of technology?

Ans- The only way of achieving this is by keeping the end in mind, end result must be priority and not individual benefits. Organizational cooperation

• How can we move from passive to active use of technology?

Ans- We can move through the availability, quality and importance of the technology.

The improvement in technology will promote good government and effective service.

• In which of the state agencies should the upgrade in technology begin?

Ans- Health, Education and Transport sector

• Why is it paramount to regularly upgrade the system? Effectivity of service

Ans- To make new features available and enhance functionality of the system for the benefits of the users.

• How can the new technology enhance processes and interactions with other entities?

Ans- Technology improves productivity and also reduces cost

• Which technologies and tools are compatible and how does the IT infrastructure change?

Ans- Cloud computing has transformed traditional IT by helping businesses and government agencies have access to cloud solutions that will help them achieve their business objectives without investing huge capital. The concept of Data Colocation and Centre Cloud computing allows businesses to focus on their main business and also allow IT professional to develop bespoke cloud solutions and Data Centre services.

The need to define priorities for standards and interoperability of devices, applications, services and networks as well as legal requirements are crucial. Effectivity of services

• How does the organization / state ensure that technological processes meet legal requirements?   Organizational cooperation

Ans- By establishing regulatory bodies that will monitor compliance and also have solutions that can check non-compliance

• What is the process on risk analysis?

Ans- Any identified risk must be mitigated by identifying process that will
help mitigate or eliminate the risk.

• How can the maturity process be measured?   Process consistency

Ans- Maturity can only be measured by the success of a process. A model must be in place to determine success of a process/technology

Affiliated to RQ2:

The projection of diverse strategies for building the means of being connected to the web.

• Which channels should be used to engage with citizens? Media usage

Ans- Television, Radio, Newspaper and Social Media

- Can the use of social media be qualified as a channel?

Ans- Yes

- How can these channels promote better communication?

Ans- By displaying updated information regularly.

- How do we assess the effectiveness of these channels?

Ans- Effectiveness of the channels can be determined by the usage.. Process consistency , Service accessibility

The relative participation of citizens from different cities in state activities will be used to measure the success of development.

- What will be the maximum outcome of participation? Resource availability

Ans- The level of participation will be determined by awareness and direct impact of such activities on the citizens. Nigeria is an environment that citizens individually provide their basic needs, therefore it is difficult for them to be fully involved in public activities without proper awareness and direct benefits.

The basic determinants of measuring the effectiveness of participation. Attempt towards participation

- How do you measure the quality of engagement?

Ans- Quality of engagement can only be determined by their involvement and impact of the policies

- What is the rate of efficiency on the quality of services available?

Ans- The rate of efficiency can be determined by the impact of available services on the citizens

- What do you expect as a benefit of participation? Effectivity of service

Ans- It will improve service delivery

Affiliated to RQ3:

The diverse limitations associated with the interconnectedness of services.

• What do you classify as a restriction for involvement? Service accessibility

Ans- Lack of awareness and if it is not easily accessible

• How do you manage to get involved? Service accessibility

Ans- Proper awareness and easy accessibility

• Do you have access to service platforms?

Ans- Yes but mainly private

The method of measuring involvement can be reflected in diverse areas.

• What is the maximum level of involvement that can be achieved? Attempt towards participation

Ans- Contributions through all means communications and projecting the image of the country with international communities

• What are the options for involvement? Media usage

Ans- Through media because current law don't allow them to involve in making policies

• What characterizes active involvement?

Ans- Interest

The standard of involvement can be specified in the maturity level.

• What is the complete characterization of standards? Attempt towards participation

Ans- Nigerians don't have equal involvement in state activities because of the implementation of the company law

• How does your involvement impact standard?

Ans- My involvement in the IT will improve the economy and improve IT service delivery in the country and the entire Africa.

Appendix 2: Interview Two

How old are you?

Ans: 40-45

What is your profession?

Ans: ICT Projects Manager

Where do you work?

Ans: Nigerian Fed. Govt

How does the public service system influence your daily activities?

Ans: The State has several information systems domiciled and implemented by several government agencies (at Federal and State levels). The several information systems caters to the automation of internal and external processes which leverages on IT infrastructure towards the provision of key services to the citizenry. These IT services are provided on a real-time online basis. Specific govt agencies provides services in line with their key mandates and operations. There are also several integrations between information systems to enable information exchange and sharing on demand. Service accessibility The available e-services can be accessed at home or from the comfort of wherever the end-users deem fit over a secured VPN link as well as e-mail and other collaboration tools.

How often do you use the state public service?

Ans: The IT services are used at any time the users requires to use it. Frequency depends on the specific purpose and use. In the case of downtime, messages are disseminated to inform users that the services are experiencing a downtime/outage.

How do you apply for regular services? Service accessibility

Ans: Services are applied for on a face-face basis and via self-service channels deployed for use (The availability of self-service depends on the level of IT infrastructure of the specific agency or the level of Infrastructure as a service-IAAS that they have subscribed to).

Do you have a constant internet connection?

Ans: Internet and Bandwidth is procured through several third party providers (ISPs) and the level of internet connection/availability depends on the level of bandwidth procured. Generally, the usage of internet and data provision has improved tremendously and key Telecoms service providers modernized the industry and provided data usage based on consumption tailor-made to specific users requests. An enterprise system generally procures a much larger bandwidth space compared to organizations/agencies with smaller staff strength or limited services to provide.

What in your opinion can be done to improve the public system? Service accessibility

Ans: A centralized e-government system as obtained in some other environments is deemed as best practice and would allow citizenry access information and services on demand. The implementation of several information systems in silos is not cost-effective and won't provide the govt access to timely information on demand.

How will you rate the state information system?

Ans: On a general note, the major OEMs and key IT companies have presence within the state and the level of IT infrastructure for both local skills and outsourced has been very qualitative and risen substantially within a short time-frame. There is also room for improvement.

What should be changed in the state public system?

Ans: Please refer to response on 1.2 above

Affiliated to RQ1:

The ideal quality of investment can reduce limitations and increase the active use of technology in the state.

What is the effect of stakeholder cooperation in the development process?

Ans: Private sector and international donor agencies' participation is the panacea for active growth and development of IT in any forward looking state. The Fed or State Governments cannot single handedly fund these projects without these required support. Organizational cooperation

How can the state promote digital culture and increase value? Process consistency

Ans: All deployed technological driven projects have to attest to adequate ROIs (return on investments) back to stakeholder. A culture re-alignment and attitude change related to a change management process is required to drive adoption in order for end-users to migrate to use of automated services and processes. The Government can also set laid down policies and guidelines which can be backed up by incentives or disable and make manual based services less attractive.

What is the current level of technological advancement in the state?

Ans: Robust infrastructure and IT automations are evident within the formal entities. There is room for serious investments and growth within the informal/unstructured entities.

How can political and ideological differences affect the use of technology?

Ans: Political will and backing is a requirement for the implementation of set policies as it wields a major influence. IT and e-services is inclusive in that. Ideological and cultural beliefs forms the norms of specific set of people. These conditions affect the use of technology to an extent as well.

How can we move from passive to active use of technology?

Ans: Through implementation of key change management methodologies and strategies to help drive adoption and usage.

The improvement in technology will promote good government and effective service.

In which of the state agencies should the upgrade in technology begin?

Effectivity of service

Ans: The list is not exhaustive. There are generally several Ministries, Agencies and Departments of Govt (MDAs) scattered across the country. As earlier reiterated, specific govt agencies/parastatals have specific goals and mandates tailor towards their operations and provision of services to the citizenry. No doubt, strong investment in IT and provision and focus towards automation of their core services would promptly propel their services towards improved productivity and efficiency.

Why is it paramount to regularly upgrade the system? Process consistency

Ans: Technology undergoes constant upgrades and sophistication to provide more add-on services and efficiency towards the way every IT service is expected to operate. It is mission critical that every forward thinking organization follows global best practice and industry standards to be on the cutting edge of technological advancements as old IT solutions tend to go obsolete over time.

How can the new technology enhance processes and interactions with other entities?

Ans: Newly deployed technologies have a value proposition tailored towards specific business objectives to ensure business continuity. No doubt, new automations would foster productivity, enhanced way of doing business and provide much more efficiency in the provision of services to end-users (citizenry). Process consistency, Effectivity of service

Which technologies and tools are compatible and how does the IT infrastructure change?

Ans: For Technologies: The list is not exhaustive. Industry standard technologies should have compatibility and interoperability standards and open compatibilities/interoperability and APIs to enable integrations to other Information Systems.

The need to define priorities for standards and interoperability of devices, applications, services and networks as well as legal requirements are crucial. Process consistency

How does the organization / state ensure that technological processes meet legal requirements?

Ans: Before IT automations/projects are implemented, they has to be a business requirements/justification to allow business analysis and assurance towards that IT automation. The implemented IT automation has to be backed up/ratified by a robust SLA (service level agreement) which would govern the level of services to be provides and penalties in the cases of breach of the governing SLA.

What is the process on risk analysis? Process consistency

Ans: Risk measures and a risk register has to be implemented to track all cases of identified risks to ensure prompt treatments. A breach of SLA is an impending risk factor that should be brought to attention and review promptly.

How can the maturity process be measured? Effectivity of service

Ans: Post implementation, survey/usage reports, service availability reports, reports of lessons learnt during project implementation and post implementation support can form basis a basis for measuring the maturity process of implemented services.

Affiliated to RQ2:

The projection of diverse strategies for building the means of being connected to the web.

Which channels should be used to engage with citizens? Media usage

Ans: Generally the news and print media (TV, Radio, Dailies), Government gazette public notices and circulars and other forms of self-service channels: Web, E-mail (Messaging), Video Conferencing, Mobile, SMS/VAS-Value Added Services and other forms of social media communication tools.

Can the use of social media be qualified as a channel? Media usage

Ans: Yes, social media (like Twitter & Facebook) can be very informative and fully qualifies as a channel of communication. However, the nature of content and dissemination of information passing through social media has to go through extreme vetting. Social media has proven to have the potential to have a wide reach as well.

How can these channels promote better communication?

Ans: These aforementioned channels have strong potential to improve mass awareness (please refer to responses above).

How do we assess the effectiveness of these channels?

Ans: Via the target audience and their responses.

The relative participation of citizens in state activities will be used to measure the success of development.

What will be the maximum outcome of participation?   Attempt towards participation

Ans: Diverse responses and participation should be expected. Literacy level of people should be considered as a factor.

The basic determinants of measuring the effectiveness of participation

How do you measure the quality of engagement? Process consistency

Ans: Random survey methodologies can be sought and used. The responses provided in this interview is an example.

What is the rate of efficiency on the quality of services available?

Ans: Determined by several factors: Skill levels, competency level, level of adoption and literacy level etc.

What do you expect as a benefit of participation?

Ans: A paradigm shift/change in the way the participants behave and conduct their business.

Affiliated to RQ3:

The diverse limitations associated with the interconnectedness of services.

What do you classify as a restriction for involvement?

Ans: Some end-users tend to see IT as a major bottleneck in the reduction of manpower-Constant tussle of misconception that IT would reduce the number of people required to do a task-Viz-a-viz: IT providing a more efficient and improved way of doing the task.

How do you manage to get involved? Process consistency

Ans: By obtaining required buy-in from key stakeholders and active participation.

Do you have access to service platforms?

Ans: Yes.

The method of measuring involvement can be reflected in diverse areas.

What is the maximum level of involvement that can be achieved? Attempt towards participation

Ans: Restricted-Centralized system wherein several decision making process feeds back to the central. Citizens in diaspora have limited participation in these processes and can gauge the level

of implementation based on developed policies and its implementation geared towards improvements in the standard of living for example.

What are the options for involvement?

Ans: Voluntary

What characterizes active involvement?

Ans: No clear cut path for people in diaspora.

The standard of involvement can be specified in the maturity level

What is the complete characterization of standards?   Attempt towards participation

Ans: Nigerians are allowed to participate as contractors in the provision of goods and services to the state and would naturally follow laid down policies, regulations and processes as stipulated by the State or Fed Govt.

How does your involvement impact standard?

Ans: Active participation is every citizen's contribution to nation building and should see it as a civic responsibility.

Appendix 3: Interview Three

1.1.1   How old are you?

Ans- 80

1.1.2   What is your profession?

Ans- Retired Banker (pensioner)

1.1.3   Where do you work?

Ans- Federal Savings Bank (defunct)

1.1.4   How does the public service system influence your daily activities?

Ans- In the old system we use the old telephone system unlike the nowadays system. We phone our customers and they also phone back in the olden days so that is how we use the communication system.

1.1.5   How often do you use the state public service?

Ans- The state public service as recalled was used regularly/daily when we need it.

1.1.6   How do you apply for regular services?

Ans- By telephone calls or by physical visitation/invitation.

1.1.7   Do you have a constant internet connection?

Ans- In the olden days no because we had to queue to use a public system communication gadget to phone outside Nigeria but nowadays it is a common thing to apply.

1.2   What in your opinion can be done to improve the public system?

Ans- The state information system is fair. It is even getting better every day because all these new gadgets are being applied/ used in most of the offices.

1.3   How will you rate the state information system? Effectivity of service, Service accessibility

Ans- On the average I think it's better than the old times. The government has done well by bringing a new communication system. There has been an improvement since the introduction of the hand phones and this has made it easy for people to communicate.

1.4   What should be changed in the state public system? Process consistency
Ans- Maybe little change, I cannot say change parse because change is constant. Just improve on the current system to make it more easier for the general use of citizens. One major thing would be an improvement in state information portal for retired pensioners so we can access valuable information on demand.

Affiliated to RQ1:
The ideal quality of investment can reduce limitations and increase the active use of technology in the state.
•   What is the effect of stakeholder cooperation in the development process? Media usage
Ans- Nowadays we are lucky because things have changed drastically particularly the communication system. Service accessibility We can now phone and use SMS, YouTube, WhatsApp and all sorts of gadget like that. Organizational cooperation So the involvement / cooperation of companies has made things easier for people to communicate and to do business.

•   How can the state promote digital culture and increase value?
Ans- Although the process is slow I can say that It is a lot easier now because you can get in touch with people more easily than before instead of posting letters or using the old system of communication (box telephone). Effectivity of service Now at a finger touch/tip you can call anywhere and discuss. More technological awareness even to villages will go a long way.

•   What is the current level of technological advancement in the state?
Ans- This has improved greatly and we can say on the average, it is good for the state.

•   How can political and ideological differences affect the use of technology?
Ans- This depends on the people particularly our politicians. They can use it to their advantage in order to win more people to themselves. It can also be abused because those people that dont have

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the opportunity of using this advanced technological gadgets may be used against them without knowing.

• How can we move from passive to active use of technology?

Ans- By being more liberal for the use of these telecommunication gadgets and by reducing the cost of using it. We can move to a more advanced stage of applying the communication system.

The improvement in technology will promote good government and effective service.

• In which of the state agencies should the upgrade in technology begin? Process consistency

Ans- The state agencies have similar job to do. It cannot be left to one alone. It should be started with all of them because if one is applying the technological system and the other one does not have it, then it does not work. Organizational cooperation So I would rather prefer that all the state systems like NAFDAC or whatever you call it must start at the same time so that they can grow together.

• Why is it paramount to regularly upgrade the system? Process consistency

Ans- Of course change is the most common thing that can happen in any state or development. Without following the current trend of things you will be left behind. So it is always good for us to move with the time.

• How can the new technology enhance processes and interactions with other entities?

Ans- As I have said, most of these departments need to improve on their communication system so that they are not left behind. This helps because it promotes quicker answer to most of the questions being asked the government vis-a-vis. So it is advisable that we promote the use of these communication gadgets. Process consistency, Organizational cooperation

• Which technologies and tools are compatible and how does the IT infrastructure change?

Ans- This cannot be over-emphasized that most of these gadgets are meant for business. Quick business for that matter because what should have taken you about a week or so to operate, to do or complete it takes under an hour and it is done. So I will prefer that every state system apply this communication system to their businesses.

The need to define priorities for standards and interoperability of devices, applications, services and networks as well as legal requirements are crucial.

•	How does the organization / state ensure that technological processes meet legal requirements?

Ans- They just have to follow the rules because there is nothing you want to do now without the backing of the law. So strictly they must apply what it is to be done and how it's to be done.

•	What is the process on risk analysis?

Ans- This process belongs to the analysts in different departments on the state activities. So it depends on what they see and what they recommend to the government.

•	How can the maturity process be measured?

Ans- Maybe in the use of these technological system. Well it can be measured by the amount of replies they receive from all other departments that have used it to ask questions.

Affiliated to RQ2:

The projection of diverse strategies for building the means of being connected to the web.

•	Which channels should be used to engage with citizens? Media usage

Ans- Well to be able to engage the citizens because not all fingers are equal, not everybody has the capability of buying or using the modern gadget so the easiest way is through radio advertisement, through television advertisement and some other ways. But for personal application, one has to be able to produce all these things by buying them which is very costly for people to do. So I will advise that through television and radio.

•	Can the use of social media be qualified as a channel? Media usage

Ans- Social media can be used as a channel to promote communication system.

•	How can these channels promote better communication?

Ans- These new channels can promote a higher degree of social communication within the peripheral of most of the established businesses.

- How do we assess the effectiveness of these channels?

Ans- We can assess the effectiveness of these channels through interrogation, through asking questions from the household or most of these businesses.

The relative participation of citizens in state activities will be used to measure the success of development.

- What will be the maximum outcome of participation?

Ans- The outcome of maximum participation in this type of situation will be encouraging because things will have improved greatly.

The basic determinants of measuring the effectiveness of participation

- How do you measure the quality of engagement?

Ans- This is by going from one business to the other to actually watch the operation of this system.

- What is the rate of efficiency on the quality of services available?

Ans- Like I have said before, without you being there to watch how they operate, you may not be able to get to the bottom of the actual effectiveness, but when you are there you will see how things move then you will be able to assess the effectiveness.

- What do you expect as a benefit of participation? Effectivity of service

Ans- What I expect from the participation is better services being rendered to the public and probably an increase in the production of our system

Affiliated to RQ3:

The diverse limitations associated with the interconnectedness of services.

- What do you classify as a restriction for involvement?

Ans- This could be technical and being technical may involve the electricity supply because these things work on electricity and in Nigeria you know our electricity system is very very low and it can affect the transition of all these things within / between companies

•   How do you manage to get involved? Resource availability Attempt towards participation

Ans- The only way that one can get involved in this situation is by urging the government to improve the supply of electricity that will affect all these businesses. Because in Nigeria as of today the use of generator plant is costing a lot and the only way by which we can break this terrible system is for the government to improve/ increase the supply of electricity.

•   Do you have access to service platforms? Media usage

Ans- This platform extends to everybody because there is nothing you can do now without these communication systems being applied. Like I told you earlier on instead of using the old system of pressing and phoning, now you can use the system through YouTube, WhatsApp, and all other means which has actually improved the communication system. Especially in the areas of communicating with loved ones abroad.

The method of measuring involvement can be reflected in diverse areas.

•   What is the maximum level of involvement that can be achieved? Resource availability

Ans- To improve the maximum level of my involvement in this situation is by urging the government to improve the supply system of electricity and if that fails then I have to go and involve myself in buying generator plant which i told you earlier on that it is very costly for a businessman. That will take almost 50% of his profit out of his money.

•   What are the options for involvement? Resource availability

Ans- The options for involvement is very close to what I have just told you now. If the government fails to supply enough electricity to operate all our machines then from your own side, or business side you go into buying of generator. When you use generator, the more you use that, I know it will cost much but you still have to use something to make production and accessibility go smoothly.

•   What characterizes active involvement? Organizational cooperation

Ans- The need / necessity. When you are in business you want to improve your business you want to make more money, you want to help the government by employing more people. Without these, one cannot be deeply involved in the system or these kinds of situation.

The standard of involvement can be specified in the maturity level

•   What is the complete characterization of standards?

Ans- In all government establishment, there is a standard law, rules and regulations to monitor the workers. Aside general orders, there are other statutory regulations that must be followed in any government office or parastatal. Without this, there cannot be a smooth running of these offices.

•   How does your involvement impact standard?

Ans- Being an old civil servant and a retired one we follow rules and other regulations are to be followed to the letter to avoid chaos in all the activities of the government.

Appendix 4: interview Four

How old are you?

Ans - 32

What is your profession?

Ans - IT Sales Professional

Where do you work?

Ans - Signal Alliance Ltd

How does the public service system influence your daily activities?

Ans - Minimal influence on my daily activities because of inferior quality of services provided, that is, if available. Service accessibility Effectivity of service

How often do you use the state public service?

Ans - Not often.

How do you apply for regular services?

Ans - Pay as you use basis.

Do you have a constant internet connection?

Ans- Yes – Private. An average Nigerian patronize two or more mobile network services provider. Other than personal internet service provision, of 36 states in Nigeria, Resource availability only the Lagos state Govt. have implemented free Wi-Fi services at 3 of 5 selected out door parks within the state.

What in your opinion can be done to improve the public system? Process consistency

Ans - The use of technology to drive perception, adoption and consumption of available e-public services and, adequate efforts aimed at improving the administrative efficiency of the public service thereby, repositioning it for effective service delivery. Effectivity of service

How will you rate the state information system? Effectivity of service

Ans - 20%

What should be changed in the state public system?

Ans - Bureaucracy, administrative complacency, reforms and laws to maintain quality of services provided. Making adequate effort to constantly evolve with the use of technology to deliver services.

Affiliated to RQ1:

The ideal quality of investment can reduce limitations and increase the active use of technology in the state.

What is the effect of stakeholder cooperation in the development process?

Ans - Private – Public -Partnerships i.e. private corporations through an agreed MoU with the Govt., design, develop, implement, support and maintain solutions/services which are protected by govt. policies and laws. Organizational cooperation

How can the state promote digital culture and increase value? Process consistency

Ans - Investment in digital Infrastructure through regulation and tax rebate to digital companies. Creating awareness of available services, ensuring patronage by enlightening users of benefits such as cost savings and efficiency.

What is the current level of technological advancement in the state?

Ans - First level i.e. mapping technology to public service strategies is not recognized as an asset. There is no clear sponsorship or ownership. Conversations basically is like, help me find and purchase the right product or group of products i.e. Collaboration, Data Center, Security, Enterprise Networking etc. solutions required to drive service delivery as opposed to the second, third or fourth transformative states of technology.

How can political and ideological differences affect the use of technology?

Ans - Attitude must be right towards the use of Technology; i.e. how Social media can affect politics and in return, influence laws and reforms regarding the use of technology.

How can we move from passive to active use of technology?
Ans - Drive adoption and patronage/service consumption through regulations and policies.

The improvement in technology will promote good government and effective service.
In which of the state agencies should the upgrade in technology begin?
Ans - NDLEA, NAFDAC, NPA etc. All the Ministries, Defenses and Agencies in Nigeria.

Why is it paramount to regularly upgrade the system?
Ans - Technology is ever evolving newer versions of an existing applications/software, security breaches, etc. if adopted, Effectivity of service can be used as a force to drive e-governance, service quality and fundamentally, for system transformation.

How can the new technology enhance processes and interactions with other entities? Media usage
Ans - New Technology like the use of a video conferencing/Telepresence solution, Skype for business, Email exchange, SharePoint solutions, etc. enhance and improve team collaboration, business/individual productivity, and overall efficiency. Proper consultation with experts, there are several ICT bespoke services or solutions to enhance processes with other entities.

Which technologies and tools are compatible and how does the IT infrastructure change?
Ans - Constantly, IT infrastructure change is driven by the end user ever evolving needs and demands.

The need to define priorities for standards and interoperability of devices, applications, services and networks as well as legal requirements are crucial.
What is the process on risk analysis?
Ans - Identifying and quantifying uncertainties and estimating their impact on outcomes

How can the maturity process be measured? Process consistency Service accessibility

Ans - Level of transformation and adoption by users

Affiliated to RQ2:

The projection of diverse strategies for building the means of being connected to the web.

Which channels should be used to engage with citizens? Media usage

Ans - Social Media, TV, Radio, dailies etc.

Can the use of social media be qualified as a channel? Media usage

Ans - Social media is a major source of information dissemination/circulation in the 21st century. Qualifies as a channel.

How can these channels promote better communication? Effectivity of service

Ans - Real time interactions, more efficient collaboration, enhanced productivity, better user experience etc. Process consistency Service accessibility

How do we assess the effectiveness of these channels? Service accessibility Effectivity of service

Ans - Extensive reachability across all demography (age, gender, region, etc.), level of participation/traffic on shared content, volume of feedback generated per content shared etc.

The relative participation of citizens in state activities will be used to measure the success of development.

What will be the maximum outcome of participation? Service accessibility

Ans - Maximum number of participation or interaction is dependent on factors such as benefits to be derived from available services, service relevance and its impact on interactor's daily activity etc.

The basic determinants of measuring the effectiveness of participation

How do you measure the quality of engagement? Service accessibility Effectivity of service

Ans - Impact. Satisfaction/benefits derived from a service, quality of service delivered, government reforms/policies to ensure service continuity and protection of personal information.

What is the rate of efficiency on the quality of services available? Effectivity of service

Ans - Measuring the outcome effects, or output and impact on service users. Efficiency, can be achieved under the conditions of maximizing the results of an action in relation to the resources used, and it is a measure of user satisfaction.

What do you expect as a benefit of participation? Effectivity of service

Ans - Best in class customer experience relative to critical success factor of each participant.

Affiliated to RQ3:

The diverse limitations associated with the interconnectedness of services.

What do you classify as a restriction for involvement?

Ans - Administrative inefficiency of the public service provider, cost incurred because of continuous technology upgrade (i.e. infrastructure, applications/software), and compromised platforms/ security breach.

How do you manage to get involved? Service accessibility

Ans - Trend. Awareness. Interest. Accessibility

Do you have access to service platforms?

Ans - Yes. E.g. postal service platforms.

The method of measuring involvement can be reflected in diverse areas.

What is the maximum level of involvement that can be achieved? Attempt towards participation

Ans - The bid to attain high level of participation by Nigerians or Nigerians abroad has remained a wishful thinking as bureaucratic inefficiency continues to constitute critical concern.

What are the options for involvement?

Ans - Social Media, Documentaries and campaigns, write ups etc.

What characterizes active involvement? Effectivity of service

Ans - Effectiveness. Usefulness, Impact

The standard of involvement can be specified in the maturity level

What is the complete characterization of standards? Process consistency

Ans - It is imperative that a new strategy that will enhance efficient service delivery in the Nigerian Public Service be adopted to deliver a desired economic and political development of the country

How does your involvement impact standard?

Ans - No impact in my honest opinion. I don't know of any public forum / platform available to the citizens for positive contribution, involvement or knowledge transfer. Media usage However, there are social media (i.e. twitter, IG, Facebook etc.) platforms for general discussions on the standard of services delivered by the public service organizations but no direct impact at the right audience on standardization of services. An average Nigerian living in the country Media usage thrive on the use of social media to express opinions, critiques, feedback, essentially to contribute views and viewpoints regarding the core function of the government which is providing efficient and positively impactful services to her citizens. In line with this, Nigerians in the diaspora have NO better participation in the affairs of state activities than the resident ones.

Coding Analysis

Service Accessibility

Int_One [5531:5570]

 Proper awareness and easy accessibility

Int_One [646:713]

 Public systems must be available always, free and easily accessible

Int_One [5435:5487]

 Lack of awareness and if it is not easily accessible

Int_One [4227:4288]

 Effectiveness of the channels can be determined by the usage

Int_Three [2019:2100]

 We can now phone and use SMS, YouTube, WhatsApp and all sorts of gadget like that

Int_Three [1354:1479]

There has been an improvement since the introduction of the hand phones and this has made it easy for people to communicate.

Int_Two [3705:3894]

 A culture re-alignment and attitude change related to a change management process is required to drive adoption in order for end-users to migrate to use of automated services and processes.

Int_Two [2315:2482]

 A centralized e-government system as obtained in some other environments is deemed as best practice and would allow citizenry access information and services on demand

Services are applied for on a face-face basis

The available e-services can be accessed at home or from the comfort of wherever the end-users deem fit over a secured VPN link as well as e-mail and other collaboration tools.

Trend. Awareness. Interest. Accessibility

Impact. Satisfaction/benefits derived from a service, quality of service delivered,

Extensive reachability across all demography (age, gender, region, etc.), level of participation/traffic on shared content, volume of feedback generated per content shared

Real time interactions, more efficient collaboration, enhanced productivity, better user experience

Level of transformation and adoption by users

Minimal influence on my daily activities because of inferior quality of services provided, that is, if available.

available services, service relevance and its impact on interactor's daily activity

Process Consistency

Private companies are really committed in this process by going into partnership with the state government for building transformational solutions that will create enabling environment. Private companies are also going into personal investments that will grow the economy and improve life of the residents.

The state is really investing in infrastructure such as IOT and PPP initiatives with private companies

Effectiveness of the channels can be determined by the usage

Maturity can only be measured by the success of a process

More investment in public infrastructures

As I have said, most of these departments need to improve on their communication system so that they are not left behind. This helps because it promotes quicker answer to most of the questions being asked the government vis-a-vis.

Int_Three [4005:4213] Of course change is the most common thing that can happen in any state or development. Without following the current trend of things you will be left behind. So it is always good for us to move with the time.

Int_Three [3654:3943]

It should be started with all of them because if one is applying the technological system and the other one does not have it, then it does not work. So I would rather prefer that all the state systems like NAFDAC or whatever you call it must start at the same time so that they can grow together.

Int_Three [1615:1704]

Just improve on the current system to make it more easier for the general use of citizens

Int_Two [10290:10366]

By obtaining required buy-in from key stakeholders and active participation.

Int_Two [9405:9512]

Random survey methodologies can be sought and used. The responses provided in this interview is an example.

Int_Two [7364:7486]

Risk measures and a risk register has to be implemented to track all cases of identified risks to ensure prompt treatments

Int_Two [6183:6344]

New automations would foster productivity, enhanced way of doing business and provide much more efficiency in the provision of services to end-users (citizenry).

Int_Two [5568:5952]

Technology undergoes constant upgrades and sophistication to provide more add-on services and efficiency towards the way every IT service is expected to operate. It is mission critical that every

forward thinking organization follows global best practice and industry standards to be on the cutting edge of technological advancements as old IT solutions tend to go obsolete over time.

A culture re-alignment and attitude change related to a change management process is required to drive adoption in order for end-users to migrate to use of automated services and processes.

It is imperative that a new strategy that will enhance efficient service delivery in the Nigerian Public Service be adopted to deliver a desired economic and political development of the country

Real time interactions, more efficient collaboration, enhanced productivity, better user experience

Level of transformation and adoption by users

The use of technology to drive perception, adoption and consumption of available e-public services and, adequate efforts aimed at improving the administrative efficiency of the public service thereby, repositioning it for effective service delivery.

Investment in digital Infrastructure through regulation and tax rebate to digital companies

Organizational Cooperation

By establishing regulatory bodies that will monitor compliance and also have solutions that can check non-compliance

Int_One [1784:1902]

The only way of achieving this is by keeping the end in mind, end result must be priority and not individual benefits.

Int_One [1092:1397]

Private companies are really committed in this process by going into partnership with the state government for building transformational solutions that will create enabling environment. Private companies are also going into personal investments that will grow the economy and improve life of the residents

Int_Three [10459:10515]

 you want to help the government by employing more people

Int_Three [4305:4535]

 As I have said, most of these departments need to improve on their communication system so that they are not left behind. This helps because it promotes quicker answer to most of the questions being asked the government vis-a-vis.

Int_Three [3654:3943]

 It should be started with all of them because if one is applying the technological system and the other one does not have it, then it does not work. So I would rather prefer that all the state systems like NAFDAC or whatever you call it must start at the same time so that they can grow together.

Int_Three [2102:2216]

So the involvement / cooperation of companies has made things easier for people to communicate and to do business.

Private sector and international donor agencies' participation is the panacea for active growth and development of IT in any forward looking state

private corporations through an agreed MoU with the Govt., design, develop, implement, support and maintain solutions/services which are protected by govt

Effectivity of service

No effect on my daily activities

10%

It will improve service delivery

Cloud computing has transformed traditional IT by helping businesses and government agencies have access to cloud solutions that will help them achieve their business objectives without investing huge capital.

To make new features available and enhance functionality of the system for the benefits of the users

What I expect from the participation is better services being rendered to the public

 Now at a finger touch/tip you can call anywhere and discuss

There has been an improvement since the introduction of the hand phones and this has made it easy for people to communicate.

 Post implementation, survey/usage reports, service availability reports

 The implemented IT automation has to be backed up/ratified by a robust SLA (service level agreement) which would govern the level of services to be provides and penalties in the cases of breach of the governing SLA.

 new automations would foster productivity, enhanced way of doing business and provide much more efficiency in the provision of services to end-users (citizenry).

strong investment in IT and provision and focus towards automation of their core services would promptly propel their services towards improved productivity and efficiency.

 Effectiveness. Usefulness, Impact

 Best in class customer experience

 Efficiency, can be achieved under the conditions of maximizing the results of an action in relation to the resources used, and it is a measure of user satisfaction.

 Impact. Satisfaction/benefits derived from a service, quality of service delivered,

 Extensive reachability across all demography (age, gender, region, etc.), level of participation/traffic on shared content, volume of feedback generated per content shared

 Real time interactions, more efficient collaboration, enhanced productivity, better user experience

a force to drive e-governance, service quality and fundamentally, for system transformation.

20%

The use of technology to drive perception, adoption and consumption of available e-public services and, adequate efforts aimed at improving the administrative efficiency of the public service thereby, repositioning it for effective service delivery.

Minimal influence on my daily activities because of inferior quality of services provided, that is, if available.

Media usage

Through media because current law don't allow them to involve in making policies

Television, Radio, Newspaper and Social Media

now you can use the system through YouTube, WhatsApp, and all other means which has actually improved the communication system

Social media can be used as a channel to promote communication system

through radio advertisement, through television advertisement

We can now phone and use SMS, YouTube, WhatsApp and all sorts of gadget like that

Yes, social media (like Twitter & Facebook) can be very informative and fully qualifies as a channel of communication. However, the nature of content and dissemination of information passing through social media has to go through extreme vetting. Social media has proven to have the potential to have a wide reach as well

Generally the news and print media (TV, Radio, Dailies)

However, there are social media (i.e. twitter, IG, Facebook etc.) platforms for general discussions

Social Media, Documentaries and campaigns

Social media is a major source of information dissemination/circulation in the 21st century. Qualifies as a channel.

Social Media, TV, Radio, dailies

New Technology like the use of a video conferencing/Telepresence solution, Skype for business, Email exchange, SharePoint solutions, etc. enhance and improve team collaboration, business/individual productivity, and overall efficiency

the use of social media to express opinions, critiques, feedback, essentially to contribute views and viewpoints regarding the core function of the government which is providing efficient and positively impactful services to her citizens

Attempt towards Participation

Contributions through all means communications and projecting the image of the country with international communities

Nigerians don't have equal involvement in state activities because of the implementation of the company law

Quality of engagement can only be determined by their involvement and impact of the policies

The only way that one can get involved in this situation is by urging the government to improve the supply of electricity that will affect all these businesses

Nigerians are allowed to participate as contractors in the provision of goods and services to the state and would naturally follow laid down policies, regulations and processes as stipulated by the State or Fed Govt.

Citizens in diaspora have limited participation in these processes and can gauge the level of implementation based on developed policies and its implementation geared towards improvements in the standard of living for example.

Diverse responses and participation should be expected. Literacy level of people should be considered as a factor.

The bid to attain high level of participation by Nigerians or Nigerians abroad has remained a wishful thinking as bureaucratic inefficiency continues to constitute critical concern.

Resource Availability

Int_One [4594:4796]

Nigeria is an environment that citizens individually provide their basic needs, therefore it is difficult for them to be fully involved in public activities without proper awareness and direct benefits.

Int_Three [9518:9654]

To improve the maximum level of my involvement in this situation is by urging the government to improve the supply system of electricity

Int_Three [9985:10141]

If the government fails to supply enough electricity to operate all our machines then from your own side, or business side you go into buying of generator.

Int_Three [8558:8717]

The only way that one can get involved in this situation is by urging the government to improve the supply of electricity that will affect all these businesses

Int_Four [664:780]

only the Lagos state Govt. have implemented free Wi-Fi services at 3 of 5 selected out door parks within the state.